Revision and catalogue of worldwide staghorn corals *Acropora* and *Isopora* (Scleractinia: Acroporidae) in the Museum of Tropical Queensland

Carden C. WALLACE

Barbara J. DONE

Paul R. MUIR

Museum of Tropical Queensland, 70–120 Flinders St Townsville 4810 Queensland. Email: carden.wallace@qm.qld.gov.au

Citation: Wallace, C.C., Done, B.J. & Muir, P.R. 2012 06 30. Revision and catalogue of worldwide staghorn corals *Acropora* and *Isopora* (Scleractinia: Acroporidae) in the Museum of Tropical Queensland. *Memoirs of the Queensland Museum — Nature* 57: 1–255. Brisbane. ISSN 0079-8835.

ABSTRACT

Species of the reef-building coral genera *Acropora* and *Isopora* are reviewed and their synonymies, descriptions and distributions updated, following previous revisions in 1999 (*Acropora*) and 2007 (*Isopora*). A catalogue is given of all specimens of these genera in the Worldwide Staghorn Coral Collection in the Museum of Tropical Queensland, Australia, providing geographic records from present-day Indo-Pacific and Atlantic species. The collection includes primary types of 61 species, numerous secondary types, topotypes and fragments of types donated by other museums and specimens represented in more than 59 publications during a period of intense coral research in late 20th and early 21st centuries. One new species, *Acropora arafura*, is described from Northern Australia and species newly added to the collection since 1999 are included. ❑ *coral reefs, biogeography, taxonomy, biodiversity, Anthozoa, hexacorals.*

Species of the scleractinian coral genus *Acropora* (Oken, 1815) have a strongly established role in the evolution, biogeography and ecology of the world's coral reefs. With approximately 150 species living mostly in the Indo-Pacific, but also in the Caribbean (Wallace 1999; Veron 2000), it has the greatest species diversity of any modern reef-building genus. Numerous fossil species indicate that diversification of *Acropora* began in the Eocene (55.8–33.9 ma) of Europe and the Middle East (Wallace & Rosen 2006; Wallace 2008), continuing during the Oligocene and early Miocene up to the Burdigalian (33.9–23.03 ma) (Chevalier 1961; Schuster 2002; Perrin & Bosellini 2012). In the Caribbean it is seen in the fossil record from the Oligocene, reaching its greatest diversity before the present (Wallace 2012). Further diversification occurred in the Indo-Pacific from the mid Miocene (~ 15 ma) (Bromfield & Pandolfi 2011).

Linked to *Acropora* in many studies is its sister genus *Isopora*, recently elevated from its position as a subgenus of *Acropora* (Wallace *et al.* 2007) and found to have occurred briefly in the Caribbean (Budd & Wallace 2008; Wallace & Budd 2009; Wallace 2012) but not in Europe or the Middle East. *Isopora* has considerably fewer species than *Acropora* and a contrasting life history, *Acropora* species being broadcast spawners and *Isopora* species brooders (Fukami *et al.* 2000; Wallace *et al.* 2007). The taxonomic history of these two genera owes much to early taxonomists, both biologists and palaeontologists, whose names are preserved in the valid species names, authorships and synonymies that are presented herein.

As coral reef studies intensified during the second half of the twentieth century, the dominance of the two genera on Indo-Pacific reefs saw them feature in various major environmental and evolutionary discoveries, e.g. *Acropora* as a major participant in coral mass spawning (Harrison 2011); both genera in the development and application of molecular

approaches to phylogeny, evolution and population biology of corals (e.g. Fukami *et al.* 2000; Wei *et al.* 2006; Richards, van Oppen *et al.* 2008; Chen *et al.* 2009). Both genera also feature in environmental issues leading to population loss, *e.g. Acanthaster planci* sea star population outbreaks (Marshall & Baird 2000; Pratchett 2001), coral bleaching events associated with the el Niño phenomenon (Phongsuwan 1998; Loya *et al.* 2001; Donner 2008); reef degradation due to human and environmental impacts (Fabricius 2005; Carpenter *et al.* 2008); and efforts to conserve and restore reefs (e.g. Putchim *et al.* 2008).

This revision and catalogue is a companion to Wallace (1999): it is not meant to replace that volume and both can be used in parallel. In particular reference should be made to Wallace (1999) for detailed illustrations of skeletal features. The present catalogue updates genera and species descriptions from the 1999 monograph and records a collection and associated database, now known as the 'Worldwide *Acropora* and *Isopora* Collection' (WAIC), housed at the Museum of Tropical Queensland (MTQ) in Townsville, Australia. The WAIC includes types and mentioned specimens from taxonomic works, numerous topotypes, as well as specimens and vouchers from biogeographic, molecular, reproductive and ecological studies, surveys, field experiments and some paleontological and stratigraphic work recorded in (but not restricted to) publications listed in Table 1.

Acropora (including *Isopora* as a subgenus) was revised from eastern Australia, Indonesia and Taiwan in the late 20th century (Wallace 1978; Veron & Wallace 1984; Wallace & Dai 1997; Wallace & Wolstenholme 1998; Wallace 1999). The 1978 collection is in the Queensland Museum, Brisbane, and is not documented in this work. Specimens mentioned in the other four references are included in the WAIC, which now contains approximately 21,000 specimens from 2,000 sites around the world. Included in the collection are neotypes of three species: the type species of *Acropora*, *A. muricata* (Linneus, 1758), and two other long-standing species *A. digitifera* (Dana, 1846) and *A. pharaonis* (Milne Edwards & Haime, 1860). Currently there are primary types of 58 other species, numerous secondary types, fragments of types donated by other museums or authors, and vouchers, cited or uncited, for many works listed in Table 1.

Table 1. Publications that cite specimens in the Worldwide *Acropora* and *Isopora* Collection.

1. Adjeroud *et al.* (2009)	21. McMillan & Miller (1990)	41. Wallace (1999)
2. Babcock *et al.* (1986)	22. Noreen (2010)	42. Wallace (2001)
3. Bongaerts *et al.* (2011)	23. Pichon *et al.* (2010)	43. Wallace (2003)
4. Bridge *et al.* (2012)	24. Picket *et al.* (1985)	44. Budd & Wallace (2008)
5. Cabioch *et al.* (2011)	25. Pillay *et al.* (2002)	45. Wallace, Chen *et al.* (2007)
6. Carpenter *et al.* (1997)	26. Richards, Beger *et al.* (2008)	46. Wallace & Christie (1992)
7. Carpenter *et al.* (2008)	27. Richards, van Oppen *et al.* (2008)	47. Wallace & Dai (1997)
8. Chen *et al.* (2009)	28. Richards & Wallace (2004)	48. Wallace, Fellegara *et al.* (2009)
9. Connell *et al.* (1997)	29. Richards *et al.* (2010)	49. Wallace & Muir (2005)
10. Connell *et al.* (2004)	30. Turak & DeVantier (2011)	50. Wallace, Muir *et al.* (2007)
11. Fosså & Nielsen (1998)	31. Veron (1985)	51. Wallace *et al.* (1991)
12. Fukami *et al.* (2008)	32. Veron (1986)	52. Wallace *et al.* (2003)
13. Harriott & Banks (2002)	33. Veron (1990)	53. Wallace *et al.* (2001)
14. Hodgson & Carpenter (1995)	34. Veron (2000)	54. Wallace & Willis (1994)
15. Kenyon (1997)	35. Veron (2002)	55. Wallace & Wolstenholme (1998)
16. Mangubhai & Harrison (2006)	36. Veron & Marsh (1988)	56. Wallace & Zahir (2007)
17. Mangubhai & Harrison (2008)	37. Veron & Wallace (1984)	57. Wei *et al.* (2006)
18. Mangubhai & Harrison (2009)	38. Von Prahl & Mejia (1985)	58. Willis *et al.* (1997)
19. McMillan & Miller 1988	39. Wallace (1994)	59. Wolstenholme *et al.* (2003)
20. McMillan & Miller 1989	40. Wallace 1997	

METHODS AND RESULTS

The systematic section of this revision and catalogue includes all specimens of *Acropora* and *Isopora* registered into the collections of MTQ between June 1987 and November 2011, with the exception of unidentified specimens and those with unconfirmed identification, aquarium-reared specimens, material of new species awaiting description and specimens on loan from other museums.

Arrangement of species names and species group names. For ease of reference, species are arranged alphabetically by genus and species. For *Acropora*, the species group to which each species was assigned in Wallace (1999), or subsequently, is included under a separate heading before the Description.

Format of synonymies. This follows the format used in Wallace (1999), in which only the original description of each synonym is cited, except where the original author expanded that description in a subsequent publication. See also other aspects of synonymy development outlined in Wallace (1999: 60–61). Synonymies are updated by inclusion of new synonyms and/or transfer of synonyms to another valid species.

Abbreviations of Museum names. The type locality and museum housing the type specimen are mentioned in abbreviated form below the synonymy for each species. Abbreviations for museums are as follows: HSMD: Hessisches Landesmuseum, Darmstadt, Germany; IGPS: Institute of Geology and Paleontology, Tohoku University, Japan; IMBR: Russian Academy of Sciences, Institute of Marine Biology, Russia; MNB: Museum für Naturkunde der Humboldt Universität, Berlin, Germany; MNHN: Muséum nationale d'Histoire naturelle, Paris, France; MSI-UP: Marine Science Institute, University of the Philippines; MTQ: Museum of Tropical Queensland, Townsville, Australia; NHM: Natural History Museum, London, UK; NMNH-SI: National Museum of Natural History, Smithsonian Institution, USA; ORI: Oceanographic Research Institute, Durban South Africa; WAM: Western Australian Museum, Perth; YPM: Yale Peabody Museum, New Haven, USA.

MTQ holdings. Holdings, indicated by MTQ registration number, are listed in this order: primary type of valid species, primary types of synonyms, paratypes, followed by general holdings listed geographically from west to east around the world, beginning in the eastern Indian Ocean region and ending in the Caribbean and Atlantic. For many species, some specimens come from type localities and can thus be considered topotypes: these are not noted, except in special cases where the type locality was visited to collect for comparative material. Locality data are abbreviated to region or country, with entries following a colon (e.g. Red Sea: or Indonesia:), and sometimes subdivided within country for larger ones.

Site coordinates and distribution maps. A full listing of the 2,000 sites in the database, including coordinates, collector, date and depth data, can be found in a Supplementary Appendix available online [www.qm.qld.gov.au]. Individual species records will become available on the Atlas of Living Australia Website: www.ala.org.au. Coordinates for sites visited by the authors and many other sites since 2000 were obtained by GPS. Protocols for collecting and previously calculated coordinates are as detailed in Wallace (1999: 59). Coordinates for individual specimens were used to prepare the distribution map for each species, illustrated in the figures. Additional distribution coordinates on the maps come from the type localities of species and synonyms and from references given in 'Further literature' (see figure captions). Attention is drawn to the fact that the maps illustrate distribution of the species from these sources only, and do not necessarily represent the entire range of the species. Further, literature records cannot always be interpreted as confirmed presence of a species in the geographic location included on the maps.

Field illustrations. Each species is illustrated by a field photograph of a colony or part thereof. Where possible, this colony is represented by a specimen in the collection. The photographs are selected to show species in a wide range of locations and habitats. Some colonies were photographed in locations where collection of specimens was not permitted, and in some cases the most suitable photograph was not of a specimen in the collection. In a few cases, species are not suitably characterised or represented in the collection to have a field photograph.

Veron 2002 specimens. Veron (2000) described 16 new species of *Acropora* (amongst a total of 103 new species) without designating holotypes, representative specimens or type locations, effectively making them *nomina nuda* under the terms of the 4th edition of the International Code of Zoological Nomenclature 1999 which requires the explicit nomination of a holotype to validate a name (Cairns 2001). The species were re-described in 2002 and a 'holotype' nominated for each species (Veron 2002). Thirteen of these 'holotypes' were deposited at MTQ. There is also a 'paratype' of *A. japonica* deposited in MTQ. The original description and subsequent re-description led to issues regarding date of publication of the species, availability of the names, and/or validity of these specimens as types (ICZN 1999, 2011). Following a request for resolution by J.E.N. Veron to the International Commission for Zoological Nomenclature (as per Article 86.1.2 of the Fourth Edition of the International Code of Zoological Nomenclature (ICZN 1999), which allows for works proposed under the conditions of the Third Code but published after its date of expiry to be considered for validation by the Commission), the Veron (2000) publication was validated as an available taxonomic work. No decision was made on availability of names within the work, with the ICZN deciding that 'It remains for subsequent workers to confirm availability of each name' (ICZN 2011).

We here confirm the names of the 16 new *Acropora* species as available from the date of description by Veron (2000). Article 72.4.1.1 of the Fourth Code (ICZN 1999) states that 'for a nominal species ... established before 2000, any evidence, published or unpublished, may be taken into account to determine what specimens constitute the type series'. Further to this, Article 73.1.2 states that 'if the nominal species group taxon is based on a single specimen ... that specimen is the holotype fixed by monotypy'. Dr Veron was able to confirm that he had a single specimen at hand when establishing each of the 13 species and that the specimens received at MTQ were each the single representative on which the species description was based (J.E.N. Veron pers. comm.). Based on this and our interpretation of the two articles, we proffer that the 13 registered specimens held at MTQ and listed in Table 2 can be validly considered to be the holotypes of their respective nominal species. For the remaining three species, primary type specimens were deposited in other museums by Veron (2002) and these specimens have not been examined.

In the case of *Acropora japonica* Veron, 2000, the existence of an MTQ 'paratype' specimen indicates that Veron (2000) had more than one specimen available upon which to base his description. Therefore this specimen and the 'holotype' listed by Veron (2002) must both be

Table 2. Table of *Acropora* species described by Veron (2000) for which holotypes are recognised in this work. Three other species, *A. japonica*, *A. fenneri* and *A. filiformis*, are not included, as the primary type material of these was deposited in other museums. (see text).

Veron, 2000 species	Holotype Reg. No.	Notes
Acropora cylindrica	G55819	Genus now *Isopora*
A. elizabethensis	G55778	Genus now *Isopora*
A. gomezi	G55800	
A. lamarcki	G55855	
A. maryae	G55785	
A. minuta	G55796	
A. navini	G55820	
A. parahemprichii	G55797	
A. parapharaonis	G55786	
A. rufus	G55787	
A. pectinatus	G55801	
A. proximalis	G55802	
A. torresiana	G55780	

considered syntypes. The fourth edition of the Code (ICZN 1999) makes it clear that Veron's (2002) 'holotype' designation cannot be regarded as the equivalent of a lectotype designation (Articles 74.5 and 74.6). Thus a lectotype and paralectotype are designated in the present work, following ICZN (1999, Article 74.7) (see species entry for *Acropora japonica*).

Descriptions. Descriptions of the species follow a format based on the homologous morphological characters used in Wallace (1999: Table 17) and also Wolstenholme *et al.* (2003: Table 2). Characters and their states are combined to give a brief diagnosis for each species. Examination of these characters below the level of the colony requires use of a lens or binocular dissecting microscope. Characters of the coenosteum have been determined using scanning electron microscopy, but they can be seen with a binocular dissecting microscope. These are expressed as follows:

Colony and branches:

1. Colony outline (Wallace 1999: fig. 28): determinate (colony grows to a more or less predictable outline); indeterminate (colony grows apparently without intrinsic restriction).
2. Predominant outline (Wallace 1999: fig. 29): cuneiform; arborescent; hispidose; encrusting; elkhorn; corymbose; table; arborescent-table; plate.
3. Branching orders: tertiary branching order present; tertiary branching order absent. Note: primary and secondary branching orders contribute to the general shape of the colony, whilst the tertiary order adds another level of branchlets (usually evenly sized and distributed) without changing the overall colony shape.
4. Branch length: >100 mm; 50–100 mm; 25–50 mm; <25 mm.
5. Branch diameter (measured at base of final branches): >19.9 mm; 10.0–19.9 mm; 5.0–9.9 mm; 2.5–4.9 mm; <2.5 mm.
6. Branch diameter (relative contribution by axial versus radial corallites to the branch diameter): axial-dominated; radial-dominated; 50/50 axial/radial.
7. Branch taper: tapering (diameter decreases towards branch tip); terete (diameter does not vary along the branch); reverse taper (diameter decreases away from tip).
8. Radial crowding: radials don't touch; some radials touch; radials touching.
9. Axial:radial ratio (density of radial corallites on a branch): few radials expressed as <1:10; numerous radials as >1:10.

Axial corallites (Wallace 1999: 53–54, figs 31–32):

1. Axial synapticular rings: two, three, more than three.
2. Porosity: axial walls porous (spaces can be seen within the synapticular network); axial walls not porous.
3. Axial outer diameter: exact range in mm.
4. Axial calice (inner diameter): exact range in mm.
5. Axial primary (first ring of 6 septa — a measure of how far the septa extend, relative to the radius (R) of the corallite): 1/4, 1/3, 1/2, 2/3, 3/4 R.

Radial corallites (Wallace 1999: 54–56):

1. Radial sizes (a general perception based on visual assessment of overall size): small (~up to 2.9 mm); medium (~3.0–4.9 mm); large (~5.0–10.0 mm).
2. Radial synapticular rings: two, three, > three.
3. Radial sizes: one size or graded; two sizes.
4. Radial inner wall: developed; not developed; neither inner or outer wall developed.
5. Radial shape (Wallace 1999: figs 33–34): nariform; dimidiate; lipped; tubular; appressed tubular; conical; rounded appressed; rounded tubular; immersed.
6. Radial openings (Wallace 1999: figs 33–34): elongate, oval-rounded, dimidiate, cochleariform; horizontal lip; elongate lip; square.
7. Radial primary, absent, none to 1/3; 1/4; 1/3; 1/2 R.

Coenosteum (Wallace 1999: 56–58):

1. Coenosteum on and between radials: same; different.
2. Between radials coenosteum (i.e. wall of axial corallite): costate, reticulo-costate, reticulate, open spinules, dense spinules.
3. Radial coenosteum (i.e. wall of radial corallite): costate, reticulo-costate, reticulate, open spinules, dense spinules.

4. Spinule shape (Wallace 1999: fig. 35): single point, blunt irregular, forked, elaborate, meandroid elababorate, no spinules, laterally flattened, meandroid elaborate.

Taxonomic notes. New information relevant to the synonymy and interpretation of the valid species is given. Additional, previously published information of this nature may be included in the other references given for the species.

Further literature. Includes references additional to original species descriptions and references cited in 'Taxonomic notes', that provide additional information on distribution or taxonomy of the species, based on modern synonymies.

Family ACROPORIDAE Verrill, 1901

Acropora Oken, 1815

Acropora Oken, 1815: 66. [validated ICZN 1963 (Boschma 1961; China 1963)]

Type locality. Gunung Api I., Banda Is, Indonesia.

Type species. *Millepora muricata* Linnaeus, 1758; neotype MTQ G49167, designated Wallace (1999: 2–5, fig. 3, p. 182)

Diagnosis. Acroporidae which are ramose, rarely massive or encrusting, branching with single axial or leading corallites larger than the numerous radial corallites budded from them; radial corallites variously differentiated in shape; coenosteum light, reticulate, spinose, costate or pseudocostate; columella and dissepiments absent. *Paleocene to Recent.*

Further literature. Verrill (1901), Wells (1936), Wallace (1978), Veron & Wallace (1984), Veron (2000).

Acropora abrolhosensis Veron, 1985

(Fig. 1)

Acropora abrolhosensis Veron, 1985: 147, figs 3–4.
Acropora gomezi Veron, 2000, vol. 1: 408; 2002: 63–64, figs 123–126.

Type locality. Houtman Abrolhos Islands, Western Australia (holotype WAM).

MTQ Holdings. HOLOTYPE, G40448 fragment of *A. abrolhosensis* holotype from WAM; G55800 holotype of *A. gomezi* from Indonesia; **Thailand:** G56448–50; **Malaysia:** G57755 mainland and islands; G40029 Sabah; **Indonesia:** G50389, G53870, G57749 Java; G49246–47, G49371 Bali; G49367 Flores; G47477–82, G47702–3, G49368–70, G50388, G50487–88, G51771 Sulawesi; G51773 Molucca Sea; G51772, G52399–401, G54307 Halmahera; G46859–60 Banda Sea; G50387 West Timor; G60752 Irian Jaya; **Australia:** G40783, G40785, G40798 North; **Philippines:** G45866; **Palau:** G56859, G56891; **Papua New Guinea:** G45791, G53323; **Micronesia:** G38010 Chuuk; G62607, G62637–40 Pohnpei; **Marshall Is.:** G57236–38.

Species group: *horrida.*

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 10.0–19.9 mm, radial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 2.5–3.5 mm; inner diameter 0.9–1.5 mm; primary septa to ½ R. ***Radial corallites:*** very large; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: costate; spinule shape: blunt irregular.

Taxonomic note. The holotypes of *A. abrolhosensis* and *A. gomezi* were re-examined and found to be similar in the above characters. The entry for *A. abrolhosensis* in Veron, 2000: 256 includes a field photograph of *A. pulchra* (fig. 2) and appears to cover features that do not fit the original type description.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999).

FIG. 1. *Acropora abrolhosensis*, G62637, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora abrotanoides (Lamarck, 1816)

(Fig. 2)

Madrepora abrotanoides Lamarck, 1816: 280.
Madrepora crassa Milne Edwards & Haime, 1860: 135.
Madrepora deformis Dana, 1846 (non Michelin): 484, pl. 43 fig. 1.
Madrepora danai Milne Edwards & Haime, 1860: 560.
Madrepora irregularis Brook, 1892: 458; 1893: 50, pl. 14 figs E–F.
Madrepora rotumana Gardiner, 1898: 258, pl. 23 fig. 2.
Acropora mangarevensis Vaughan, 1906: 68, pl. 6 fig. 2, pl. 8 fig. 1.
Acropora tutuilensis Hoffmeister, 1925: 71, pl. 19 figs 1 a–c.

Type locality. Indian Ocean (holotype MNHN).

MTQ Holdings. Red Sea: G55258 Saudi Arabia; G54947 Yemen; **Kenya:** G35555, G35579–81; **Mayotte:** G63293, G63295–97, G63376–77; **Seychelles:** G47914–16, G49220, G51848, G59478, G59493; **La Réunion:** G33223, G54780; **Mauritius:** G39781, G51829, G51871, G54468, G54902; **Rodriguez:** G33221–22; **Maldives:** G52065–66, G53017, G59784–87, G59930–33; **Sri Lanka:** G55226, G55771, G56336, G56362–65; **Thailand:** G55908, G56037; **Indonesia:** G48470 Sumatra; G59206 Java; G46694, G49353 Bali; G48473–75 Alor; G49871 Riau; G46983 Ambon; G48469, G48471–72 Flores; G49350–51 Kalimantan; G47451–57, G49352, G50373 Sulawesi; G51716–17, G51721–24 Molucca Sea; G51718–20, G52406 Halmahera; G46974–82, G47450 Banda Sea; G60754 Irian Jaya; **Australia:** G40784, G40843, G40867, G48725 West; G27687, G28845, G28957, G29049, G30115–17, G30407–8, G30410, G30412–13, G30416, G30419, G30497, G30502–03, G30506, G30509, G30970, G30972, G30976, G30980–82, G30986–87, G30994–95, G30997–99, G31003, G31005–6, G31015, G31019–21, G31023–24, G31026–29, G31032–36, G34137, G34139, G34141, G34193, G35790, G35792, G58355 Great Barrier Reef; G30971, G30973, G30975, G30977–79, G30984, G30988–89, G31014, G31018, G31022, G31025, G31030–31, G47071, G58494, G58499, G60395, G60398, G60402, G60408, G60410–11, G60417, G60457–67, G62804, G62806, G62825, G62958, G64989–90 South-East; G30415, G30495, G30500, G30505, G30996, G35789, G35791, G35793, G60555 Coral Sea; **South China Sea:** G46831–33, G52134–40; **Japan:** G47792; **Taiwan:** G45810; **Philippines:** G45864; **Palau:** G56640, G60205; **Guam:** G36604, G41174, G53636; **Papua New Guinea:** G35680, G35904, G52791–94; **Louisiade Archipelago:** G35362–63; **Micronesia:** G36617 Chuuk; G40773 Yap; G41239, G59298, G62355–64, G62813–14 Pohnpei; G41081–83, G62725, G62772–75, Kosrae; **Solomon Is.:** G52594; **New Caledonia:** G40889, G58742, G59176, G61012; **Chesterfield Atoll:** G30409, G30411, G30414, G30496, G30498–99, G30501, G30504, G30507–08, G31000–02, G31004, G35691; **Marshall Is.:** G33136, G37480, G37968–71, G37974–76; **Kiribati:** G51220–21, G54817, G55005; **Samoa:** G33316, G34716, G38978, G38987–88, G41289, G43489, G43493, G54263; **Niue:** G54673–77; **Cook Is.:** G35716, G35930, G35932, G36088–89 **Tuamotu Archipelago:** G32865; **Austral Is.:** G35841, G35843; **Pitcairn Is.:** G54602–03, G54638–39.

Species group: *robusta*.

Description. ***Colony outline:*** determinate, predominantly arborescent-table. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.0–2.5 mm; inner diameter 0.7–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Taxonomic note. It is possible that *Acropora rotumana* may be taken out of synonymy with *A. abrotanoides*, following the finding of 'populations' of a colony form, dubbed the 'Pacific elkhorn', in Arno Atoll in the Marshall Islands (Richards *et al.* 2010). This form, identified from its colony structure as probably a more mature form of *A. rotumana* than that exhibited by the holotype, showed some separation from other forms of *A. abrotanoides* in genetic analyses using nuclear (Pax-C) and mitochondrial (rns-cox3) gene regions. The authors considered that additional material from the type locality should be compared with the Arno Atoll material before any taxonomic decision is made.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Wallace & Muir (2007), Dai & Horng (2009), Turak & DeVantier (2011).

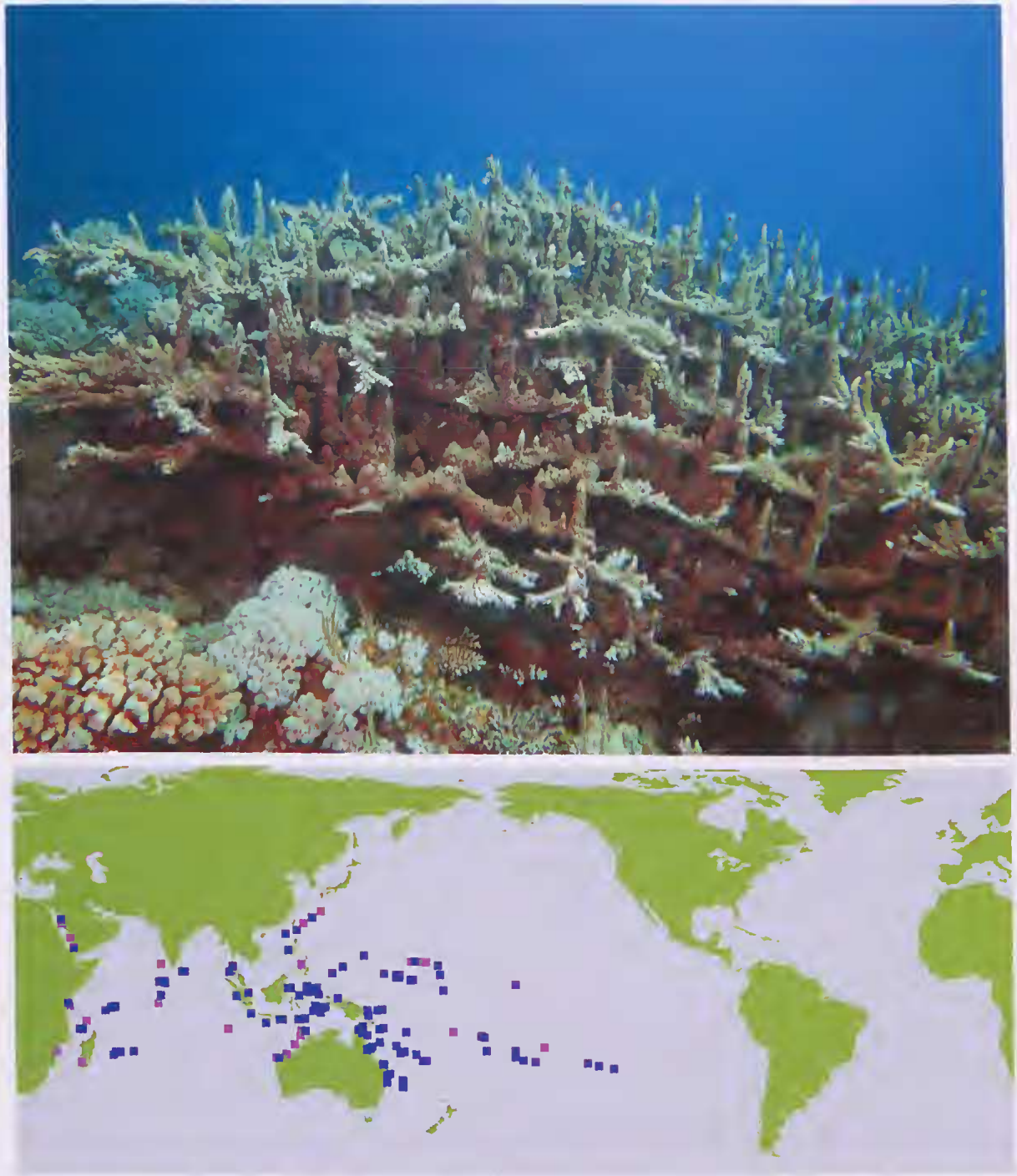


FIG. 2. *Acropora abrotanoides*, Great Barrier Reef, Australia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora aculeus (Dana, 1846)

(Fig. 3)

Madrepora aculeus Dana, 1846: 450, pl. 32 fig. 6.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Kenya: G35554, G35559–60; **Mayotte:** G63275, G63278, G63367–75, G63434–35; **Seychelles:** G49223, G59468; **Mauritius:** G59349–50; **Maldives:** G52083, G52106, G52999–3001, G59904–16, G60283, G60363; **Chagos:** G51407–12, G51445–46, G54320; **Sri Lanka:** G55584–85, G56337–38; **Bangladesh:** G50564; **Thailand:** G55926, G56125, G56445; **Malaysia**: G57670, G57753 mainland and islands; G40027–28, G40193, G41133, G41142–43, G53889 Sabah; **Singapore:** G41028, G41036; **Indonesia:** G49922 Sumatra; G49929, G49952–53, G50624, G59033 Bali; G49927–28, G49944, G50622, G53853–55 Alor; G48191–93, G49921 Lombok; G35969 Maluku; G54434 Tukangbesi Islands; G43824–26 Taka'bonerate; G51203 Seribu Is; G49923–25, G49942–43, G50621, G50927 Flores; G49936, G49939–41, G49947–51, G50012 Kalimantan; G53856 Semau; G47697, G47700, G48184–90, G49920, G49930–35, G49937–38, G49945–46, G49954, G50087, G50623, G50790, G50928, G54140–42, G55427–28 Sulawesi; G54143, G54147 Molucca Sea; G52398, G54144–46 Halmahera; G46899–901, G48179–83, G58893 Banda Sea; G49926 West Timor; G60758 Irian Jaya; **Australia:** G48703–04, G55056–58, G64398 West; G27040, G27061, G27073, G30148–54, G30156–59, G30161–75, G30178–81, G30183–88, G30191–93, G30955–57, G30959–69, G31909, G32401, G33158–59, G33162–63, G35774–86, G39791, G47295, G47383, G57542, G58015, G58079, G58100, G58110, G58170, G58368, G58605–08, G60550, G60572 Great Barrier Reef; G31910 South-East; G30177, G30182, G30189–90, G33160, G39833, G63808, G64778 Coral Sea; **South China Sea:** G52168–69, G52252–53; **Japan:** G36920, G38014, G47811; **Taiwan:** G45895, G45914, G45927, G47587–89; **Philippines:** G45869–70, G58637–38; **Palau:** G56911, G60440; **Guam:** G53632; **Papua New Guinea:** G35665, G35985, G39735, G52932–39, G53415, G54557–63, G57090–92; **Louisiade Archipelago:** G33354, G33361, G33364; **Micronesia:** G40750, G40826–28, G59251, G59282, G62481–84, G62667 Pohnpei; **Solomon Is.:** G52577; **New Caledonia:** G33090, G33092, G34988, G34992–94, G59360; **Chesterfield Atoll:** G30958, G38273–74, G58917; **Marshall Is.:** G33128, G33202, G56184–86, G56207–08, G56235, G57257–61; **Fiji:** G40945; **Samoa:** G34752, G34870, G43473, G56033; **Tahiti:** G33081; **Pitcairn Is.:** G35756.

Species group: *latistella*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, radial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.6–2.4 mm; inner diameter 0.8–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: reticulo-costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

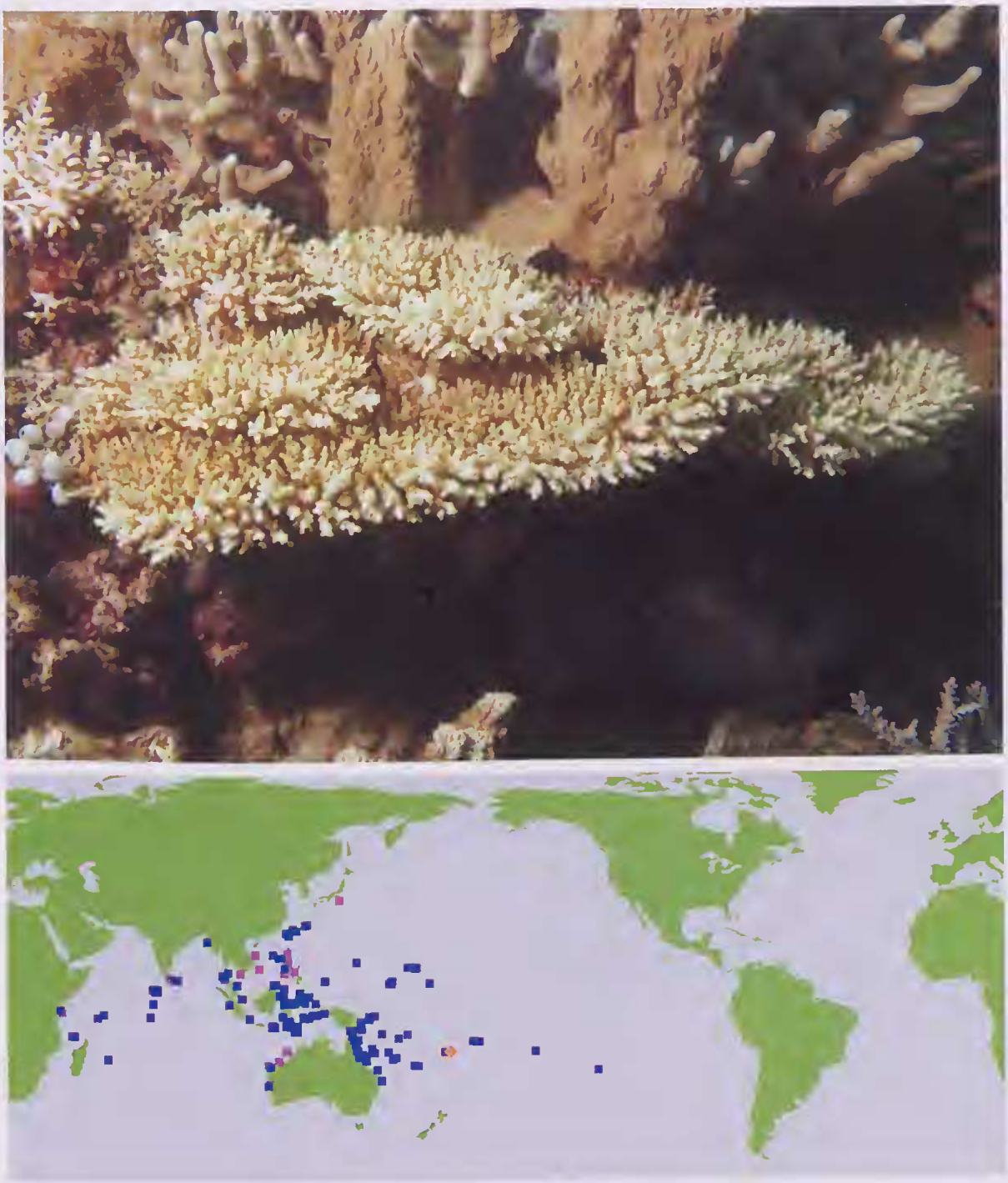


FIG. 3. *Acropora aculeus*, G62484, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora acuminata (Verrill, 1864)

(Fig. 4)

Madrepora acuminata Verrill, 1864: 40.
Madrepora diffusa Verrill, 1864: 41.
Madrepora nigra Brook, 1892: 459; 1893: 45, pl. 27 fig. C.
Acropora pectinatus Veron, 2000, vol. 1: 264; 2002: 44, figs 77–81.

Type locality. Kingsmill Islands (Kiribati) (holotype YPM).

MTQ Holdings. G55801 Flores, Indonesia holotype of *A. pectinatus*; **Red Sea:** G57777 Egypt; G54713, G54769–70 Saudi Arabia;G54728, G54740 Yemen; **Socotra:** G57407, G57409; **Mayotte:** G63270–71, G63344, G63388, G63419, G63433; **Aldabra:** G41072; **Mauritius:** G39785, G54457–60, G54895 **Maldives:** G51996–97, G53002–03, G59828–32, G60305, G60309; **Chagos:** G51371–76, G51395–405; **Thailand:** G52634, G55909–10, G55988–89, G56076, G56122–23, G56076, G59318, G59328, G63001; **Malaysia:** G54992, G57656 mainland and islands; G41131, G53880, G53924 Sabah; **Indonesia:** G32848 Java; G49003, G49309, G49377, G49381, G59720 Bali; G50975 Nusa Tenggara; G49303–04, G49375–76 Alor; G53758 Tukangbesi Islands; G50919 Taka'bonerate; G47129 Ambon; G48480, G49310, G49374, G49727, G50918, G51072, G53746, G53759–60 Flores; G49001, G49277, G49305–07, G49379–80, G53697–98 Kalimantan; G35812, G47881–90, G49308, G49372–73, G49378, G49533, G53692–93, G53695–96, G53699, G53747–50, G53757, G55436, G59096 Sulawesi; G53756 Molucca Sea; G52396–97, G53751–55, G54301, G63137, G63154 Halmahera; G47023–25, G47130, G53691, G58949 Banda Sea; G53694, G61251–52 Irian Jaya; **Australia:** G47193–94, G48775–76, G52664, G61084, G61663, G61683 West; G28625–34, G28644–49, G28651, G28654, G28656–71, G28673–77, G28679–80, G51184, G58017, G58053, G58111, G60532, G62909, G63897–99 Great Barrier Reef; G28638, G33189, G33193 South-East; G39846, G60545, G60557, G60569, G63794–99 Coral Sea; **South China Sea:** G37561, G46820, G52254, G52283; **Japan:** G38032, G38036, G47966–67; **Taiwan:** G43849, G45842, G45947, G47582, G47590, G47601, G59735; **Philippines:** G41574, G52379; **Palau:** G56916, G60433; **Papua New Guinea:** G35828, G53565; **Micronesia:** G36611 Chuuk; G62491, G62505, G62549 Pohnpei; G62745 Kosrae; **Solomon Is.:** G52579, G58569, G58578, G58586; **New Caledonia:** G34970, G41110, G58727, G58737, G61017, G61209–13; **Chesterfield Atoll:** G28636–37, G28641–42, G28650, G28652, G28655, G28672, G28678, G38150, G38241, G60233; **Marshall Is.:** G33122, G33134, G33148, G37554, G56179–83, G57294–96, G57325; **Kiribati:** G55015–20, G58800; **Fiji:** G34751; **Samoa:** G34732, G36627, G41290, G56028; **French Polynesia:** G58658; **Pitcairn Is.:** G35740, G35758.

Species group: *muricata*.

Description. ***Colony outline:*** determinate, predominantly arborescent-table. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 5.0–9.9 mm, axial-dominated, tapering; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.6–2.9 mm; inner diameter 0.6–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Taxonomic note. *Acropora pectinatus* is placed in synonymy with *A. acuminata* based on comparison of the holotype with *A. acuminata* specimens: G49306 from East Kalimantan, Indonesia; G53696 from Togian Islands, Indonesia and G53757 from N. Sulawesi, Indonesia.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

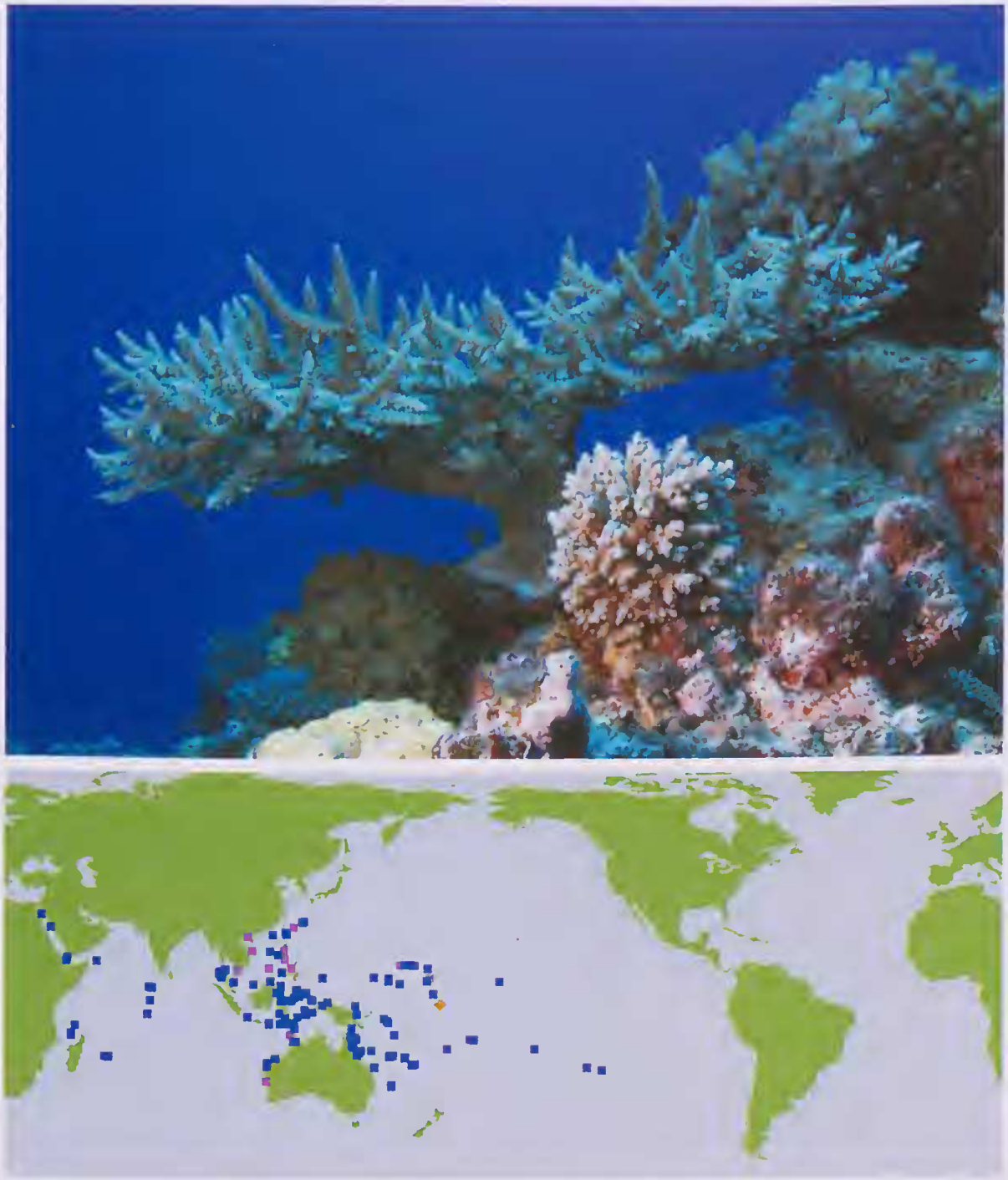


FIG. 4. *Acropora acuminata*, G63796, Holmes Reef, Coral Sea, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora anthocercis (Brook, 1893)

(Fig. 5)

Madrepora anthocercis Brook, 1893: 106, pl. 13 fig. C.

Type locality. Palm Island, Australia (lectotype NHM).

MTQ Holdings. Red Sea: G55232, G55263 Saudi Arabia; **Seychelles:** G59528 **Thailand:** G52633 **Indonesia:** G50592 Sumatra; G50833 Ambon; G61065 Irian Jaya; **Australia:** G48700 West; G28043–58, G28060–61, G28063–65, G28171–72, G28415–28, G29888–97, G30843–49, G30851–52, G34866, G48299, G57540, G58096, G58103 Great Barrier Reef; G28059, G28062, G60454 South-East; G57876–78, G58045, G60543, G63817 Coral Sea; **South China Sea:** G52255; **Japan:** G38052, G47803, G62299; **Philippines:** G45871, G45872; **Papua New Guinea:** G53461–68; **Micronesia:** G62401, G62632 Pohnpei; **Solomon Is.:** G52585, G58570; **New Caledonia:** G61196; **Kiribati:** G55021–23; **Samoa:** G63113; **Cook Is.:** G36129; **French Polynesia:** G55567.

Species group: *hyacinthus*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.9–2.8 mm; inner diameter 0.8–1.3 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: elongate lip; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

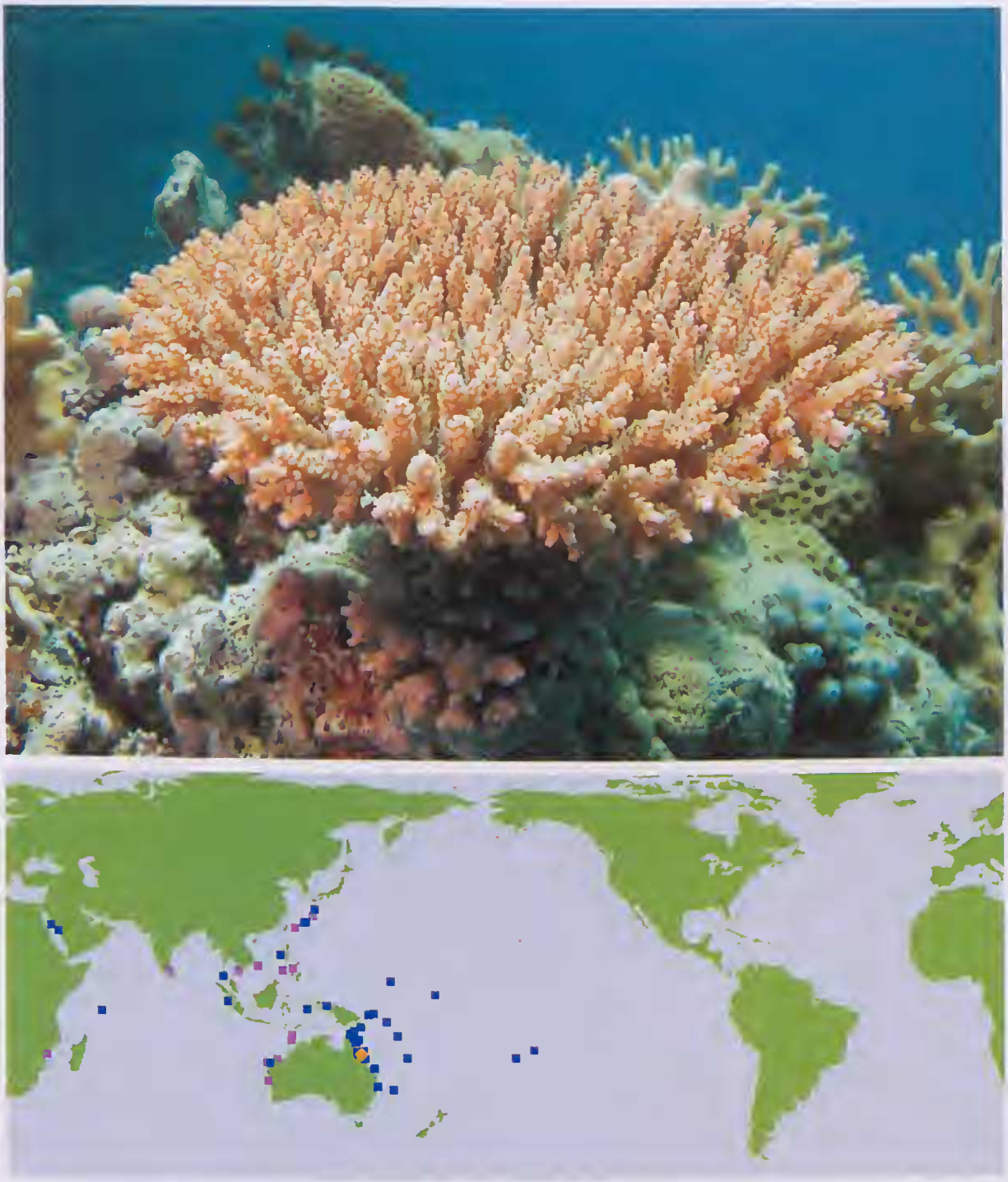


FIG. 5. *Acropora anthocercis*, Osprey Reef, Coral Sea, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora arabensis Hodgson & Carpenter, 1995

(Fig. 6)

Acropora arabensis Hodgson & Carpenter, 1995: 232, fig. 4.

Type locality. Kubbar Island, Kuwait.

MTQ Holdings. HOLOTYPE G55101, PARATYPES G55102–04 Kuwait; **Red Sea:** G62966, G62969 Yemen; **Persian Gulf:** G54791, G55054–55, G55072, G55191–203, G58680, G58683–84, G58687 Saudi Arabia; G55073 Bahrain; G55051–53, G55074, G55190, G63135 Kuwait.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 2.0–2.7 mm; inner diameter 0.5–1.0 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: laterally flattened.

Taxonomic note. In the original description, Hodgson & Carpenter (1995) reported the holotype and Kuwaiti paratypes as destroyed during hostilities. This type material was subsequently located and donated to MTQ by G. Hodgson.

Further literature. Carpenter *et al.* (1997), Wallace (1999), Veron (2000).

FIG. 6. *Acropora arabensis*, Kuwait (photo: P. Harrison). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora arafura sp. nov.

(Fig. 7)

Type locality. Australia: Northern Territory: Gove, Arafura Sea.

Material examined. HOLOTYPE: MTQ-G60418, Gove, Arafura Sea, Northern Territory, Australia, 12°10.6'S, 136°4.0'E, depth 0.5–2.5 m, C.C. Wallace, 30.07.2005. PARATYPES: MTQ-G60419, Gove, Arafura Sea, NT, 12°10.6'S, 136°43.0'E, depth 0.5– 2.5 m, C.C. Wallace, 30.07.2005. MTQ-G60420, Gove, Arafura Sea, NT, 12°11.0'S, 136°40.2' E, depth 1–3 m, C.C. Wallace, 30.vii.2005. MAGNT-C48136, reef off Gunn Point, Darwin, NT, 12°14'S, 130°0'E, depth and date unknown (MTQ-G61777 is a fragment of this paratype). MAGNT-C6252, Dudley Point, Darwin, Northern Territory, 12°25'S, 130°49'E, depth and date unknown, (MTQ-G61778 is fragment of this paratype).

OTHER MATERIAL: MTQ-G63138, Turban I., Bonaparte Archipelago, West Kimberley, Western Australia, 14°28.30'S, 124°59.36'E, depth 1–7 m, C.C. Wallace, 28.10.2007. MTQ-G63145, Albert Is, Bonaparte Archipelago, West Kimberley, WA, 14°32.5'S, 124°55.7'E, depth 1–7 m, P. Muir, 29.10.2007. MTQ-G64399, Turban I., Bonaparte Archipelago, West Kimberley, WA, 14°29.30'S, 124°59.36'E, depth 1–7 m, C.C. Wallace, 30.10.2007.

Species group: not determined.

Skeletal characteristics of holotype: part of colony, 112 mm greatest width and 90 mm height. Corallum is caespitose, consisting of numerous terete branches, 5.0 to 20 mm length (final branch), 4.5 to 5.5 mm in diameter, that give off shorter branches at regular intervals along their length. Corallites: axial corallites outer diameter 1.8 to 2.3 mm, inner diameter 0.8 to 1.1 mm, primary septa all present up to ¾ R, secondary septa absent or a few present up to 1/3 R; radial corallites rounded appressed tubular with round openings; all of similar size, regularly arranged, mostly not touching, primary septa all present up to 2/3 R, directives longer; secondary septa: some present as points. Coenosteum the same on and between radial corallites: reticulate with regularly arranged, slightly elaborated spinules.

Variations shown in paratypes: G60420 and G60419 branches are 4.5 to 6.5 mm in diameter; corallites with slightly thickened outer walls.

Description. *Colony outline:* indeterminate, predominantly caespitose. *Branches:* tertiary branching order absent; length: >25 mm; diameter: 4.5–6.5 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. *Axial corallites:* three synapticular rings; porous; outer diameter 1.8–2.3 mm; inner diamer 0.8–1.1 mm; primary septa to ¾ R. *Radial corallites:* medium; two synapticular rings; one size or graded; inner wall not developed; shape: rounded appressed; openings: oval-rounded; primary septa to 2/3 R. *Coenosteum:* same on and between radials: reticulate; spinule shape: elaborated.

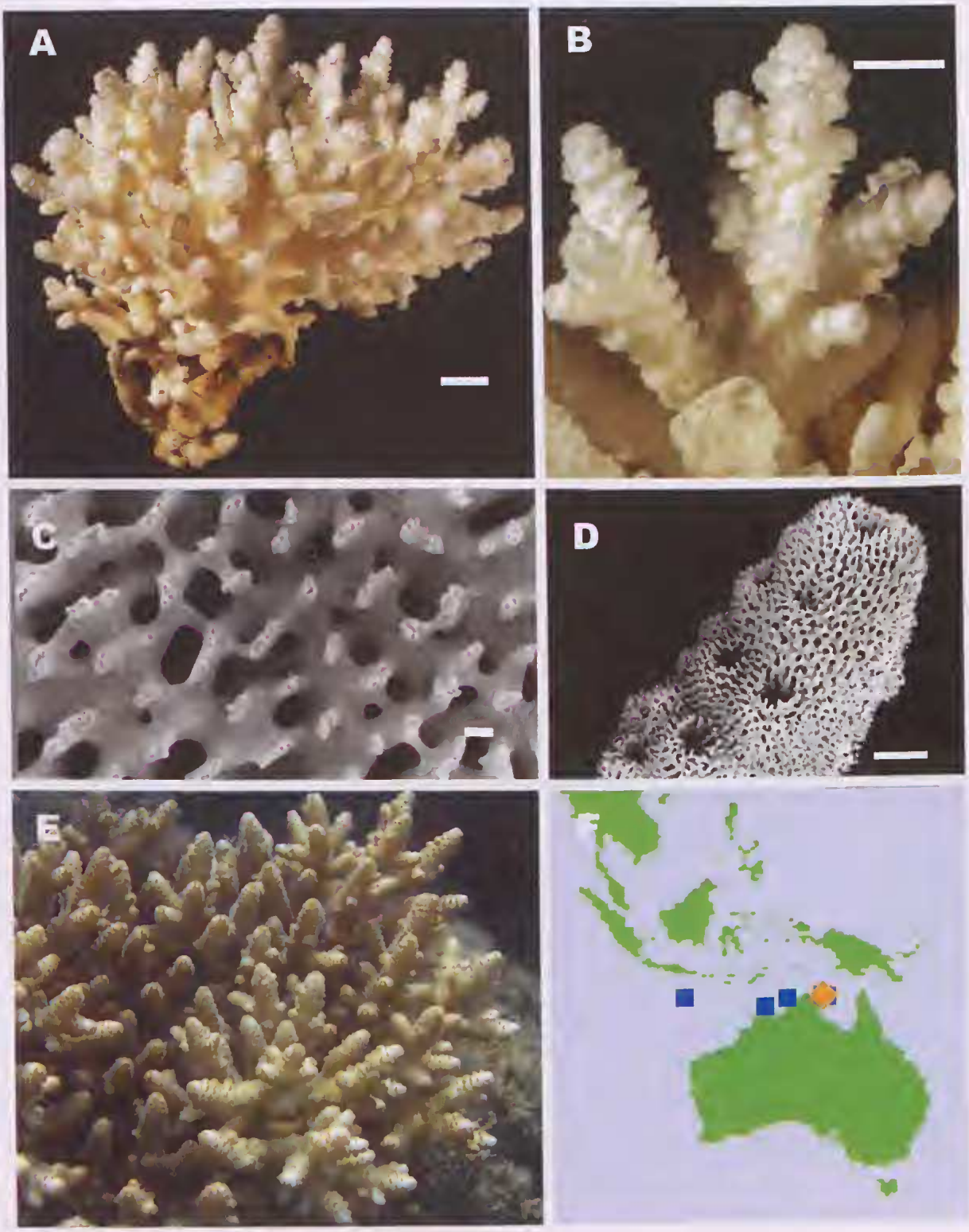
Field characteristics. Colour cream to pale brown, colonies caespitose, spreading to around 0.5 m diameter.

Habitat. Intertidal, sandy reef flats between 0.5 and 7 m depth.

Distribution. Eastern Indian Ocean: Western Australian coast, Kimberley region; north Australia: Arafura Sea.

Etymology. Named for the type locality, the shallow sea to the north of Australia.

FIG. 7. *Acropora arafura*, Holotype, MTQ-G60418, Gove, Northern Territory, Australia. **A**, whole specimen. **B**, detail of branch. **C**, electron micrograph of coenosteum. **D**, electron micrograph of branch tip. **E**, living colony *in-situ*. **F**, map of distribution: orange diamond = type locality. Scale bars: A, B = 1 cm; C = 100 µm; D = 1 mm.


A
B
C
D
E

Acropora aspera (Dana, 1846)

(Fig. 8)

Madrepora aspera Dana, 1846: 468, pl. 38 figs 1, 1a–b.
Madrepora hebes Dana, 1846: 468 pl. 35 fig. 5.
Madrepora cribripora Dana, 1846: 470 pl. 31 figs 1, 1a–c.
Madrepora manni Quelch, 1886: 150, pl. 85 figs 6–7.
Acropora yaeyamaensis Eguchi & Shirai, 1977: 489.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Persian Gulf: G58685 Bahrain; **Oman:** G40950; **Maldives:** G59833–35; **Thailand:** G32777, G35950, G35952, G55956–59, G55986, G55987; **Malaysia**: G57674, G57675; **Singapore:** G41021 **Indonesia:** G32834 Java; G50223 Bali; G47490 Lombok; G49814 Riau; G36178, G36212–13, G36216 Ambon; G48560, G50392 Flores; G35582, G39793–94, G39804, G39806, G39808, G49282, G50088 Kalimantan; G47242–43, G47538, G49278–81, G49343–44, G56511 Sulawesi; G51748, G51774 Molucca Sea; G51775–77 Halmahera; G46845 Banda Sea; G60728–29, G60732 Irian Jaya; **Australia:** G40793, G60642, G61665, G61673 West; G39776, G54737 North; G28350–58, G28360–61, G28363–64, G28366, G28368–71, G29422–23, G29426–28, G29431–32, G29434, G29436–38, G29440, G29443, G30422–26, G30430, G30432–34, G35057, G35377–78, G46037–38, G46705–10, G47641, G48367, G49233, G52059, G58171–73, G58259, G58264, G58277, G59021, G62276–77, G63922–23 Great Barrier Reef; G28359, G28365, G33190, G64155–56 South-East; G33507 Coral Sea; **South China Sea:** G52308; **Japan:** G36837–38, G36912, G36916, G36919, G38022, G48383; **Palau:** G56853; **Guam:** G36595, G40732; **Papua New Guinea:** G53177–81; **Micronesia:** G40758 Yap; G40809–10, G40812 Pohnpei; G62741–43 Kosrae; **Solomon Is.:** G52578; **New Caledonia:** G33099, G58712; **Chesterfield Atoll:** G28367, G28372, G30428, G38170; **Marshall Is.:** G33137, G47232, G56156; **Samoa:** G34733, G38977, G41198–99, G41287, G43464, G54270, G56024.

Species group: *aspera*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 3.4–4.5 mm; inner diameter 1.0–1.8 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; two sizes; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: laterally flattened.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Nomura & Mezaki (2005).

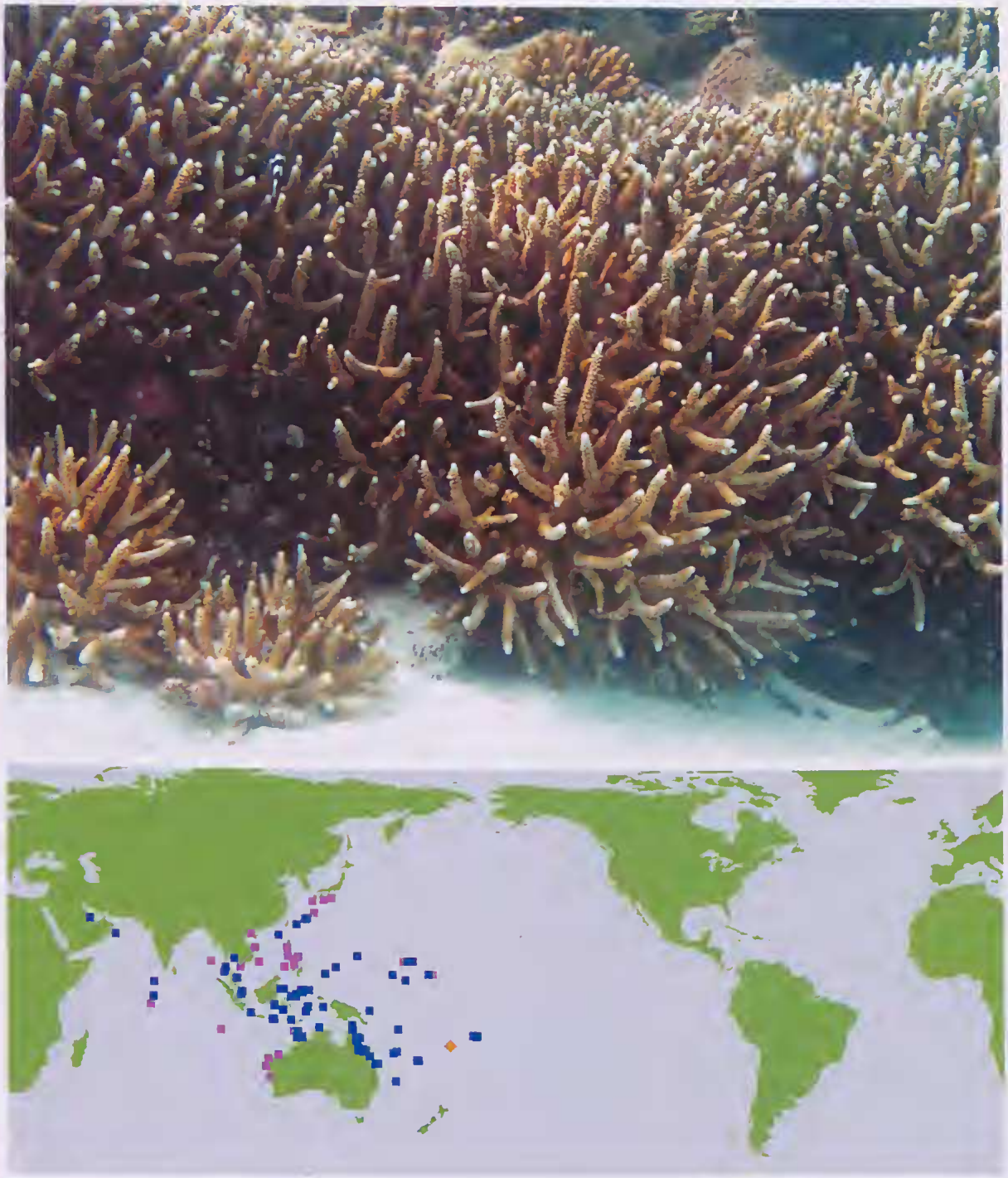


FIG. 8. *Acropora aspera*, G59833 Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora austera (Dana, 1846)

(Fig. 9)

Madrepora austera Dana, 1846: 478.
Acropora parahemprichii Veron, 2000, vol. 1: 274; 2002: 49, figs 88–92.

Type locality. not recorded (holotype YPM).

MTQ Holdings. G55797 HOLOTYPE of *A. parahemprichii* from Bali, Indonesia; **Red Sea:** G58875 Saudi Arabia; G54708 Yemen; **Kenya:** G35557–58; **South Africa:** G41039; **Comoros:** G55087–89; **Mayotte:** G63189–94, G63272–74, G63363; **Seychelles:** G47925–28, G49215, G49217–18, G51792, G51886–87, G59566; **La Réunion:** G54890; **Mauritius:** G35787, G39784, G51788–91, G51793–97, G54464–66, G54784, G54903 **Maldives:** G51999, G52067–70, G53004–09, G59844–51, G60320, G60333–34, G60341, G60354, G60357, G60379; **Chagos:** G51761, G51878; **Thailand:** G32798, G37298, G52635–36, G53655, G54837, G55999, G56073, G56114, G56484–91, G59425, G59428, G61747, G63002; **Malaysia:** G57659 **Indonesia:** G50297–98, G50374 Sumatra; G32843 Java; G50309, G53674 Bali; G50955–59 Nusa Tenggara; G50303–08, G50375, G53849–51, G59079 Alor; G47864, G47879 Lombok; G51939 Tukangbesi Islands; G50754–58 Seribu Is; G50299–300, G54536, G59077 Flores; G50313–16, G50380–81, G53676, G59055 Kalimantan; G53677 Semau; G47858–62, G47868–78, G48074, G50310–12, G50376–79, G50762, G51920–21, G53675, G53679, G55458, G59048 Sulawesi; G51934–38 Molucca Sea; G51922–33, G53678, G54302, G54303 Halmahera; G47118–22, G47863, G47865–67, G47880, G53763, G53764 Banda Sea; G50301–02, G48762, G48763, G48915, G52658, G52669, G52670 **Australia:** G48762–63, G48915, G52658, G52669–70, G64339 West; G27027, G27851–53, G27856–61, G27863, G27865–66, G27869, G27872, G27875–77, G27977, G28575, G28577, G28813, G28816, G29083, G29085–88, G29090–92, G29152–57, G29160–62, G29164, G29166–67, G29299–300, G29303, G29306–07, G29982, G29984, G29986, G29988–95, G29997–30001, G30042, G30047–52, G30118, G30475–76, G30480, G30482, G30485–86, G30864, G30869, G30872, G30919–20, G30922–25, G30927–28, G30930–35, G30937–40, G30942–44, G30946, G30948–53, G31151, G34232, G46429, G48308, G48369, G48490, G51096, G55482, G55513, G56381, G56383, G57524, G57530, G58525, G60522, G61769, G64751 Great Barrier Reef; G14845, G27849–50, G27855, G27862, G27868, G29093–94, G29110, G29159, G29163, G30041, G30044–46, G30053–54, G31711, G48551, G58496, G61776 South-East; G27976, G28576, G28814, G30477, G30481, G30865, G33463, G39832, G39850, G39853, G57617, G57626, G57628, G57640 Coral Sea; **South China Sea:** G46815–17, G52228–29, G52309, G52310; **Japan:** G38026, G38029, G47779; **Taiwan:** G35497, G45788, G45806, G45944, G47584, G47597–98; **Philippines:** G32820, G41556, G41694, G52321–25; **Palau:** G56866; **Guam:** G36603, G53650–51; **Papua New Guinea:** G35830, G52813–16, G54309, G56803–05; **Micronesia:** G40756, G40817, G59290, G62684 Pohnpei; G41085, G62758 Kosrae; **Solomon Is.:** G52119; **New Caledonia:** G34982, G54746, G58698, G58743–44; **Chesterfield Atoll:** G27870–71, G27873–74, G28574, G28815, G28817–18, G29158, G29983, G29987, G29996, G30474, G30478–79, G30484–84, G30863, G30866–68, G30870–71, G30873–75, G35686–87, G51295; **Marshall Is.:** G33124, G37987, G56195–96, G57139–53, G57326–28; **Kiribati:** G59677; **Tuvalu:** G52751; **Samoa:** G34754, G34756–60, G34764–66, G35603, G38985, G41273, G41282, G54265, G56030, G56032; **Niue:** G35808–09, G54501–04; **Cook Is.:** G35706, G35714, G35738, G35852, G35938, G35949; **French Polynesia:** G35540, G44038–39, G58622–23, G58630–31, G58652–53, G58657; **Tahiti:** G54694; **Tuamotu Archipelago:** G32866; **Austral Is.:** G35794–97 **Pitcairn Is.:** G54604–05.

Species group: *rudis*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: 50–100 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.2–3.8 mm; inner diameter 0.6–1.5 mm; primary septa to ¾ R. ***Radial corallites:*** large; three synapticular rings; one size or graded; inner wall developed; shape: rounded tubular; openings: square; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. *Acropora parahemprichii* is placed in synonymy with *A. austera* following comparison of the holotype with the following specimens: G27857 from Great Barrier Reef, Australia; G50313 from Kalimantan, Indonesia.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

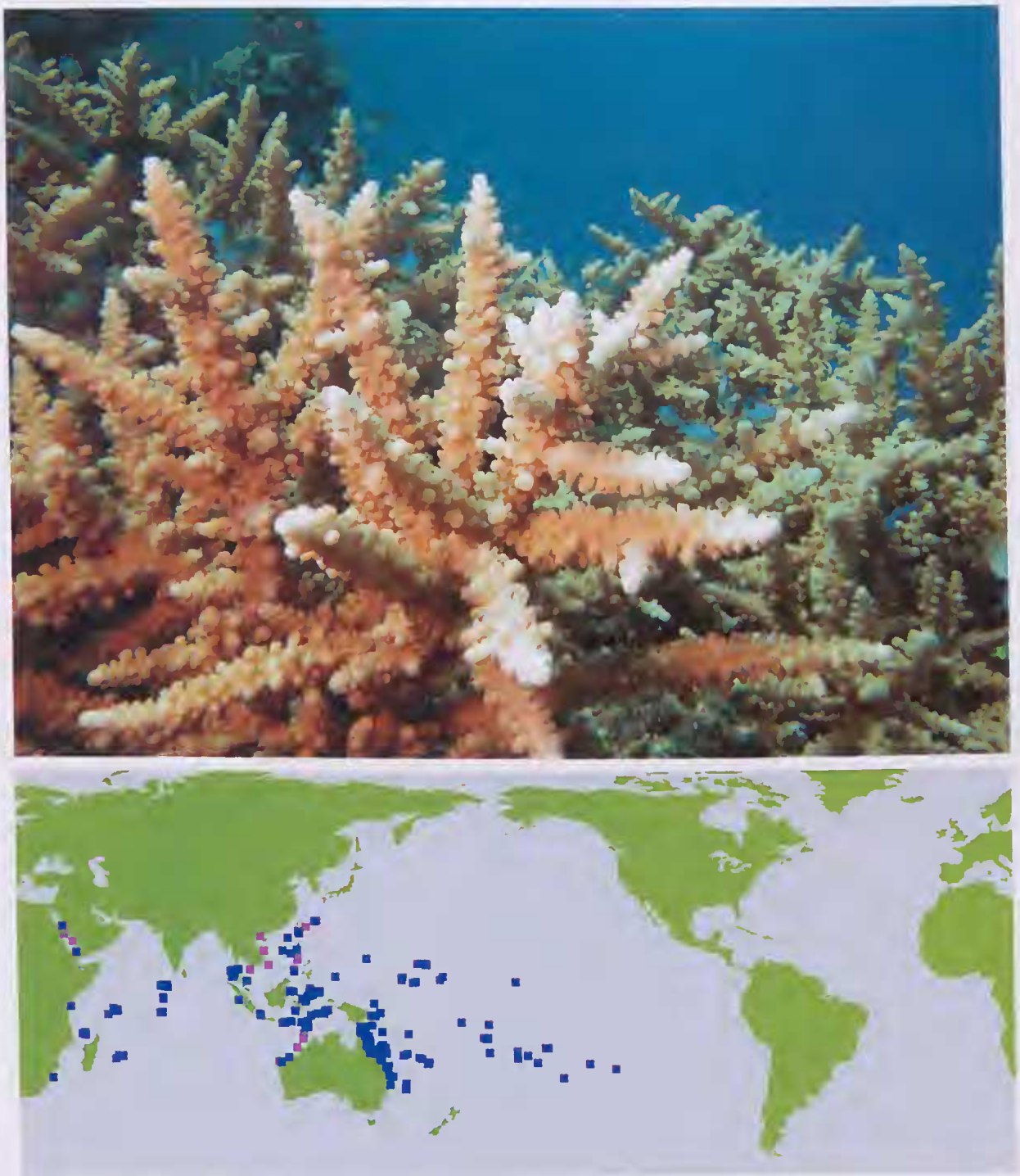


FIG. 9. *Acropora austera*, G59850, Ari Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records.

Acropora awi Wallace & Wolstenholme, 1998

(Fig. 10)

Acropora awi Wallace & Wolstenholme, 1998: 332, fig. 128.

Type locality. Bangu I., Togian Is., Indonesia.

MTQ Holdings. HOLOTYPE G50646, PARATYPES G50647–53 Indonesia; **Indonesia:** G47736 Lombok; G47730–35, G51730, G55425 Sulawesi; G51731–38, G51919, G63157 Halmahera; G57114–15 Banda Sea; G50644–45 West Timor; G60770–71, G61229 Irian Jaya; **Palau:** G56850, G56860; **Papua New Guinea:** G53318–22; **Micronesia:** G59288, G62513, G62568, G62631, G62678–83 Pohnpei; **Marshall Is.:** G57241.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.6–2.5 mm; inner diameter 0.7–1.0 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: costate; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000).

FIG. 10. *Acropora awi*, G62568, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora batunai Wallace, 1997

(Fig. 11)

Acropora batunai Wallace, 1997: 38, fig. 9.

Type locality. Bangu I., Togian Is, Indonesia.

MTQ Holdings. HOLOTYPE G48834, PARATYPES G48835–42 Indonesia; **Indonesia:** G55401–06 Sulawesi; G61060–61, G61298 Irian Jaya; **Papua New Guinea:** G51742, G53192, G53256, G55086; **Micronesia:** G59257, G62597–603, G62669 Pohnpei.

Species group: *echinata*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 0.6–1.0 mm; inner diameter 0.2–0.5 mm; primary septa to ¼ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval- rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: costate; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000).

FIG. 11. *Acropora batunai*, G62598, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora bushyensis Veron & Wallace, 1984

(Fig. 12)

Acropora bushyensis Veron & Wallace, 1984: 187, figs 440–41, 444.

Acropora fasciculare Latypov, 1992: 120, pl. 5 figs 1, 2.

Type locality. Bushy Island-Redbill, Reef Great Barrier Reef .

MTQ Holdings. HOLOTYPE G55078 Great Barrier Reef; **Thailand:** G55381, G55359, G59314, G59325–7, G59336; **Australia:** G51261 North; G27062–64, G28078–99, G38974, G47624–25, G51186 Great Barrier Reef; G34190, G60237, G64147–50 South-East; **Solomon Is.:** G52593; **New Caledonia:** G41109; Marshall Is.: G56198; **Cook Is.:** G55317.

Species group: *lovelli*.

Description. *Colony outline:* determinate, predominantly corymbose. *Branches:* tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. *Axial corallites:* two synapticular rings; not porous; outer diameter 1.8–3.5 mm; inner diameter 0.7–1.5 mm; primary septa to ¾ R. *Radial corallites:* medium; two synapticular rings; one size or graded; inner wall developed; shape: rounded appressed; openings: oval-rounded; primary septa to ¼ R. *Coenosteum:* same on and between radials: reticulate; spinule shape: single point.

Further literature. Wallace (1999), Veron (2000).

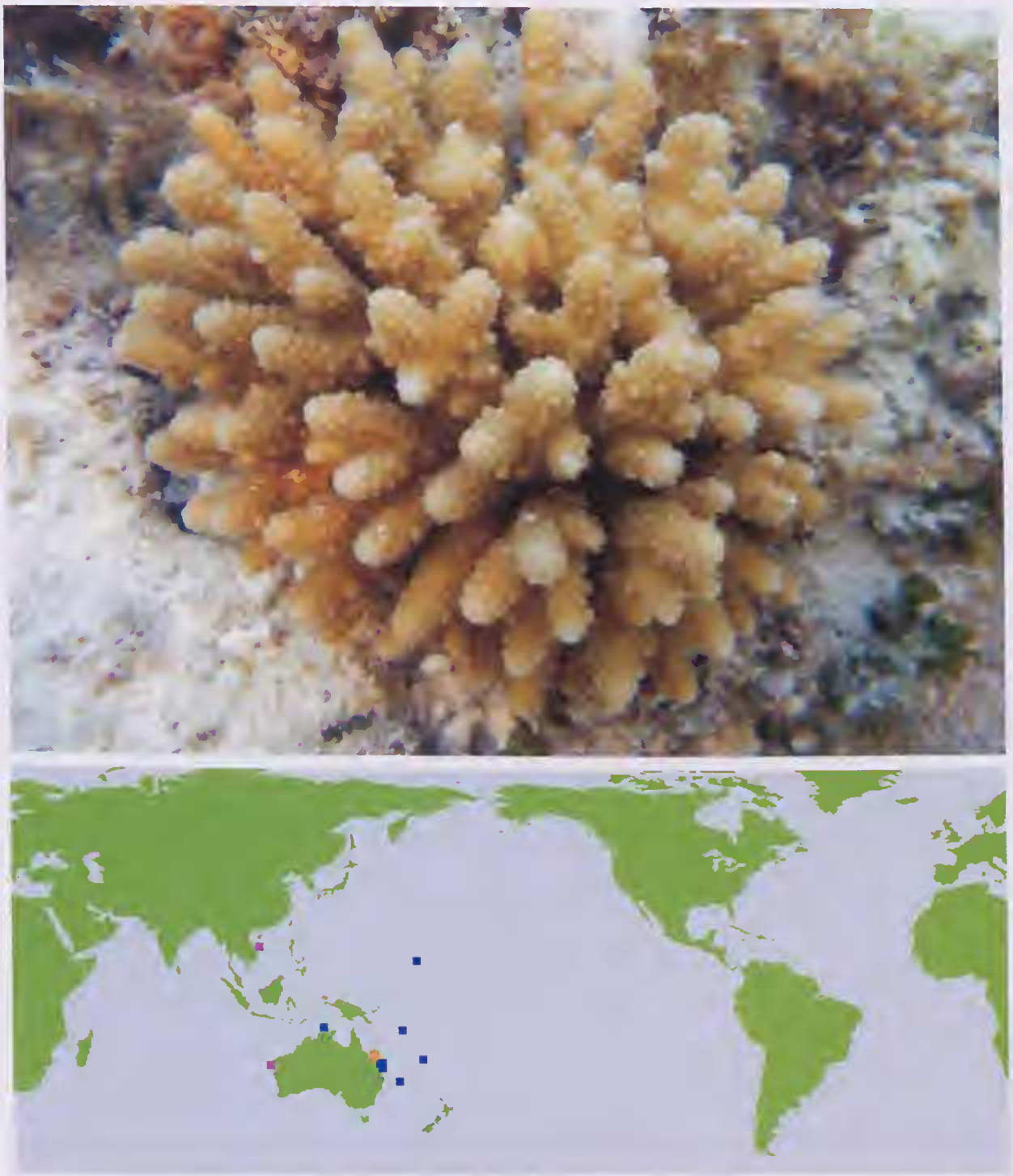


FIG. 12. *Acropora bushyensis,* Heron Island, Great Barrier Reef, Australia, 2012 (photo: K. Hay, UQ). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora cardenae Wells, 1985

(Fig. 13)

Acropora cardenae Wells, 1985: 338, figs 1–5.

Type locality. Bowl Reef, Great Barrier Reef (holotype NMNH-SI).

MTQ Holdings. G63658–59 Hydrographer's Passage, Great Barrier Reef, Australia.

Species group: *elegans*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: <2.5 mm, axial/radial ratio: 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.5 mm; inner diameter unrecorded; primary septa to 1/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. This species, described from specimens dredged from 55 to 120 m deep, was regarded as rare until seen in abundance in photographs taken from a remotely operated vehicle on the Great Barrier Reef (Bridge *et al.* 2012).

Further literature. Wallace (1999), Veron (2000), Turak & DeVantier (2011).

FIG. 13. *Acropora cardenae,* Hydrographer's Passage, Great Barrier Reef, Australia,, 2010 (photo: T. Bridge). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora carduus (Dana, 1846)

(Fig. 14)

Madrepora carduus Dana, 1846: 464, pl. 36 fig. 2.
Madrepora prolixa Verrill, 1866: 22.

Type locality. Fiji (lectotype NMNH-SI).

MTQ Holdings. Thailand: G32780, G55929–30, G56005–06 **Indonesia:** G50965–66 Nusa Tenggara; G47712 Lombok; G35977, G35981 Maluku; G50964 Taka'bonerate; G50347 Flores; G50491, G59056, G59062, G59064 Kalimantan; G50348 Semau; G47711, G48266, G50346, G50349–50, G50492, G51629 Sulawesi; G51630–37, G63158 Halmahera; G47710 Banda Sea; **Australia:** G27036–37, G27775–85, G28847–67, G29075–76, G29078–82, G56929, G57025–26, G57522 Great Barrier Reef; G29077 Coral Sea; **Palau:** G56870–71, G56873, G56906, G56910, G60442, G60443; **Papua New Guinea:** G51743, G53262–68, G61734–36; **Solomon Is.:** G35598, G35608; **Fiji:** G34804, G34806–08; **Samoa:** G43461.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.0–2.0 mm; inner diameter 0.5–0.9 mm; primary septa to ¼ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** same on and between radials: costate; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011)

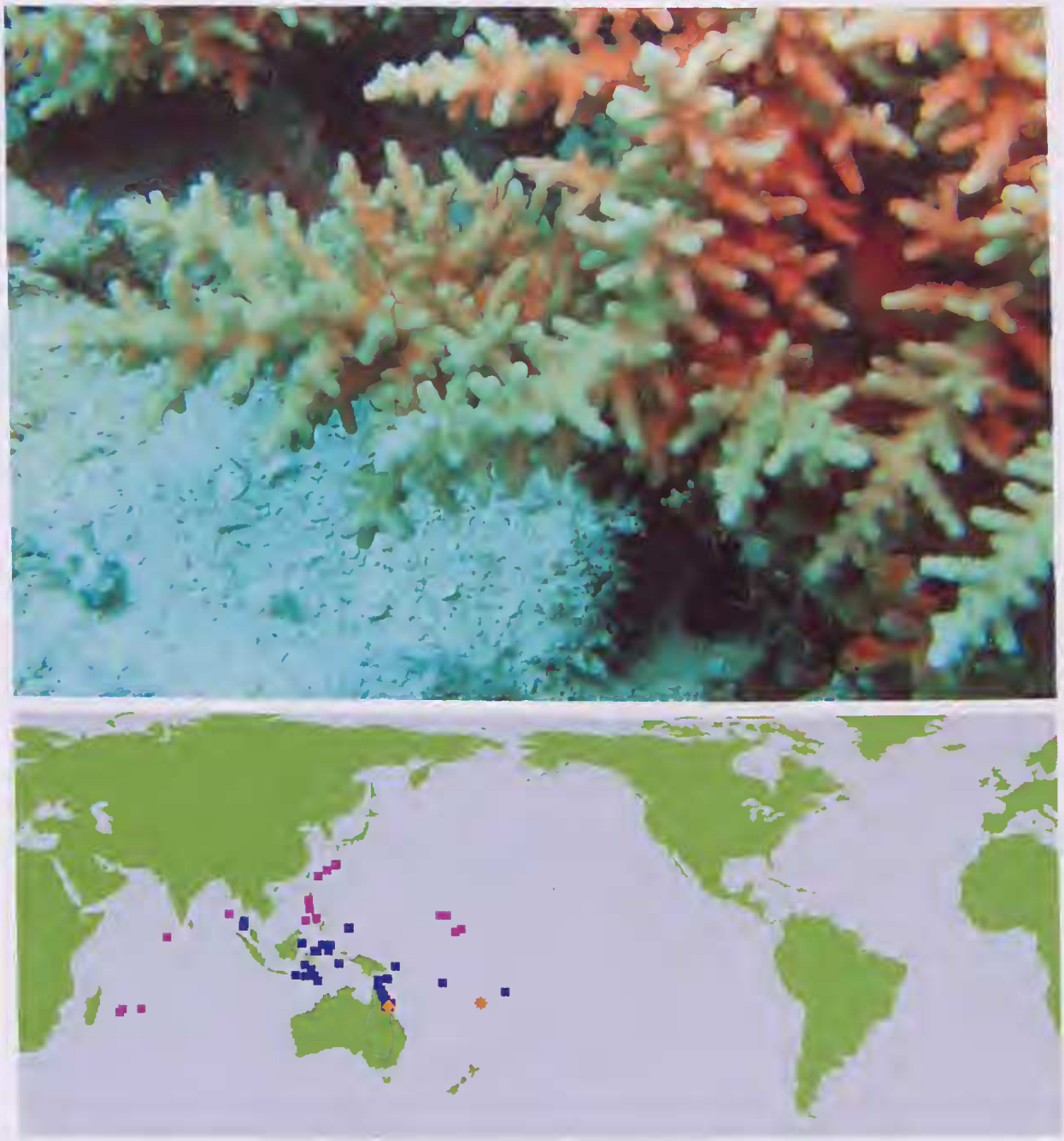


FIG. 14. *Acropora carduus,* Ribbon Reefs, Great Barrier Reef, Australia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora caroliniana Nemenzo, 1976

(Fig. 15)

Acropora caroliniana Nemenzo, 1976: 231, fig. 1.

Type locality. Philippines (holotype MSI-UP).

MTQ Holdings. Mayotte: G63303–04, G63425; **Maldives:** G60009, G60293, G60295, G60298, G60300, G60303, G60312–13; **Malaysia:** G53883–85 Sabah; **Indonesia:** G51190, G51779 Bali; G51783–85 Tukangbesi Islands; G48877 Flores; G48878, G49026, G50453, G58646 Kalimantan; G48265, G48864–74, G48876, G50405–10, G51189, G55417–21, G55453–54, G55460, G57004, G57007, G59659 Sulawesi; G51780–82 Halmahera; **Australia:** G31094–101, G57021–24, G58299–300, G63913–16 Great Barrier Reef; **Philippines:** G52313; **Papua New Guinea:** G45792, G53501–08; **Micronesia:** G59296, G62530–34, G62564 Pohnpei; **Solomon Is.:** G58996.

Species group: *loripes*.

Description. ***Colony outline:*** determinate, predominantly caespito-corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.7–3.5 mm; inner diameter 0.6–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. The page and figure numbers for for the original description of this species were incorrectly given in Wallace (1999). The type specimen is a holotype by monotypy. The MTQ records extend the range of this species considerably westwards in the Indian Ocean.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

FIG. 15. *Acropora caroliniana*, G63304, Mayotte, East Indian Ocean 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora cerealis (Dana, 1846)

(Fig. 16)

Madrepora cerealis Dana, 1846: 460 pl. 35 fig. 2.
Madrepora hystrix Dana, 1846: 476 pl. 31 fig.5, pl. 40 fig. 1.
Madrepora tizardi Brook, 1892: 464; 1893: 89, pl. 11 figs C–D.
Madrepora cymbicyathus Brook, 1893: 86.

Type locality. East Indies (lectotype NMNH-SI).

MTQ Holdings. Red Sea: G54709 Yemen; **Kenya:** G35569; **Mayotte:** G63255–57, G63259, G63261, G63366; **Seychelles:** G47956, G51862, G59500, G59556; **La Réunion:** G33207; **Maldives:** G59989–90, G60374, G61611; **Thailand:** G32795, G55943–45, G59405; **Malaysia:** G52616–17, G57664, G57673, G57760, G59357 mainland and islands; G40019, G53898 Sabah; **Singapore:** G41024, G41031 **Indonesia:** G47163, G49391–92, G49539–40, G49730, G50280, G50702 Sumatra; G49419–20, G49549–51, G50296, G53966–69, G59061, G59182, G59718 Bali; G49398–403, G50590, G53877, G53996 Alor; G48038, G49390 Lombok; G35963, G35982 Maluku; G53993–95, G54425–27, G54438 Tukangbesi Islands; G50751 Seribu Is; G50273, G50781–84, G50792 Ambon; G49393–94, G49541–43, G49961–62, G50281, G50589 Flores; G49415–18, G50292–95 Kalimantan; G49395–96 Semau; G48030–37, G48121, G49389, G49404–14, G49536–38, G49544–48, G49731–32, G49960, G50274–79, G50282–91, G50532, G50551, G50587–88, G53970–74, G54127–28, G59661 Sulawesi; G53975 Molucca Sea; G53976–92, G54129 Halmahera; G48025–29, G48268, G49387–88, G49728–29, G50703, G58896 Banda Sea; G49397 West Timor; **Australia:** G41161, G41176, G48760, G52441–45, G52677–79, G60657, G61088, G61686 West; G41161 North; G27070, G27080, G27095, G27699–702, G28146, G28148, G28725–26, G28728, G28730, G28733–34, G28812, G29006–10, G29012–15, G29017–19, G29021, G29036, G29038–40, G29043, G29045, G29204, G29207, G29210–11, G29213–15, G29219–21, G29223, G29226–31, G29233, G29497, G29499–500, G29610, G29612–16, G29621–23, G29784, G29836–52, G30002–09, G30560, G30562–66, G30569, G30571, G30573–75, G30577–80, G30582–83, G30586–87, G30725–26, G30729, G30733–36, G30776, G30779, G30781, G30785–86, G34242, G35144–46, G35148–49, G40969–70, G40972–74, G41309–11, G47386, G48248, G49243, G56971, G57534, G57537, G57541, G58056, G58064–66, G58068, G58602, G60227, G60530, G60540 Great Barrier Reef; G29011, G30568, G58417, G58502, G60116, G64978–79 South-East; G28150, G28727, G28729, G28731–32, G29041, G29202, G29216, G29222, G29496, G29498, G29608, G29618, G29620, G30581, G30584, G30591, G30727–28, G30730–32, G30737, G30777, G30780, G30782–84, G34146, G39828–30, G39852, G57621, G57635, G57643, G57879, G60531, G60541, G60549, G63819–25, G64782 Coral Sea; **South China Sea:** G52238–48, G52256, G52276, G52342–52; **Japan:** G36841, G36850, G47795–00; **Philippines:** G41715, G45848–50, G45857, G52380–83; **Palau:** G36235, G36542, G56625–27, G56856–57, G60201, G60439; **Guam:** G53646; **Papua New Guinea:** G35624, G35653, G35889, G53384–10, G59105; **Micronesia:** G40719, G41165 Yap; G40757, G40813, G40823, G59267, G59287, G62398–99, G62470–74, G62480, G62544, G62570, G62620, G63124 Pohnpei; **Solomon Is.:** G59039–40, G52600–01, G58583, G58995; **New Caledonia:** G35012, G58708, G61031; **Chesterfield Atoll:** G28147, G28149, G28735, G29016, G29200–01, G29203, G29205–06, G29208–09, G29212, G29217–18, G29224–25, G29232, G29501, G29611, G29617, G29619, G30561, G30570, G30572, G30576, G30778, G35147, G38143–44, G38245, G38247, G58921; **Marshall Is.:** G33116, G33143, G37959, G37962, G37979, G37985, G47222, G47235, G56187–93, G56225, G57248–56; **Kiribati:** G54818, G54954–58, G54983–86, G55009–10, G58797; **Samoa:** G33307, G36630, G36639, G38981, G41274, G43468, G43471, G43478, G56021–23; **Niue:** G50578, G54505–06; **Cook Is.:** G35723, G55539–40; **Pitcairn Is.:** G54606–09, G54647.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.0–2.2 mm; inner diameter 0.3–0.8 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: elongate; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: laterally flattened.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Chan *et al.* (2004), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

FIG. 16. *Acropora cerealis*, G62480, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora cervicornis (Lamarck, 1816)

(Fig. 17)

Madrepora cervicornis Lamarck, 1816: 281.
Madrepora attenuata Brook, 1893 p.33 pl. 35 figs C–D.

Type locality. American Ocean (holotype MNHN).

MTQ Holdings. Bahamas: G54476, G54485–89; **Panama:** G51799; **Mexico:** G48425; **USA:** G36774–82, G36796, G54478–84; **Venezuela:** G51960–64; **Virgin Is.:** G33177–78, G40919–20; **Fossil, Caribbean:** G63101, G64486–500.

Species group: *cervicornis*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.0–3.5 mm; inner diameter 1.1–1.7 mm; primary septa to ¾ R. ***Radial corallites:*** large; two synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulo-costate, on radials: costate; spinule shape: single point.

Further literature. Van Oppen *et al.* (2000), Vollmer & Palumbi (2002), Gardner *et al.* (2003), Wallace (2012).

FIG. 17. *Acropora cervicornis*, Caribbean (photo: J. Lang). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records.

Acropora chesterfieldensis Veron & Wallace, 1984

(Fig. 18)

Acropora chesterfieldensis Veron & Wallace, 1984: 403, figs 1012–1017.

Type locality. Chesterfield Reefs.

MTQ Holdings. HOLOTYPE G55081 **Australia:** G27938, G27946, G27949 Great Barrier Reef; G27935–37, G27952, G35887, G39851 Coral Sea; **New Caledonia:** G27939–45, G27947–48, G27950–51, G27953–54, G38248, G38252 **Chesterfield Atoll**: G34990; **Marshall Is.:** G56147, G57311–12; **Niue:** G36027.

Species group: *loripes*

Description. ***Colony outline:*** indeterminate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: <1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1–3 mm; inner diameter 0.7–1.0 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000), Turak & DeVantier (2011).

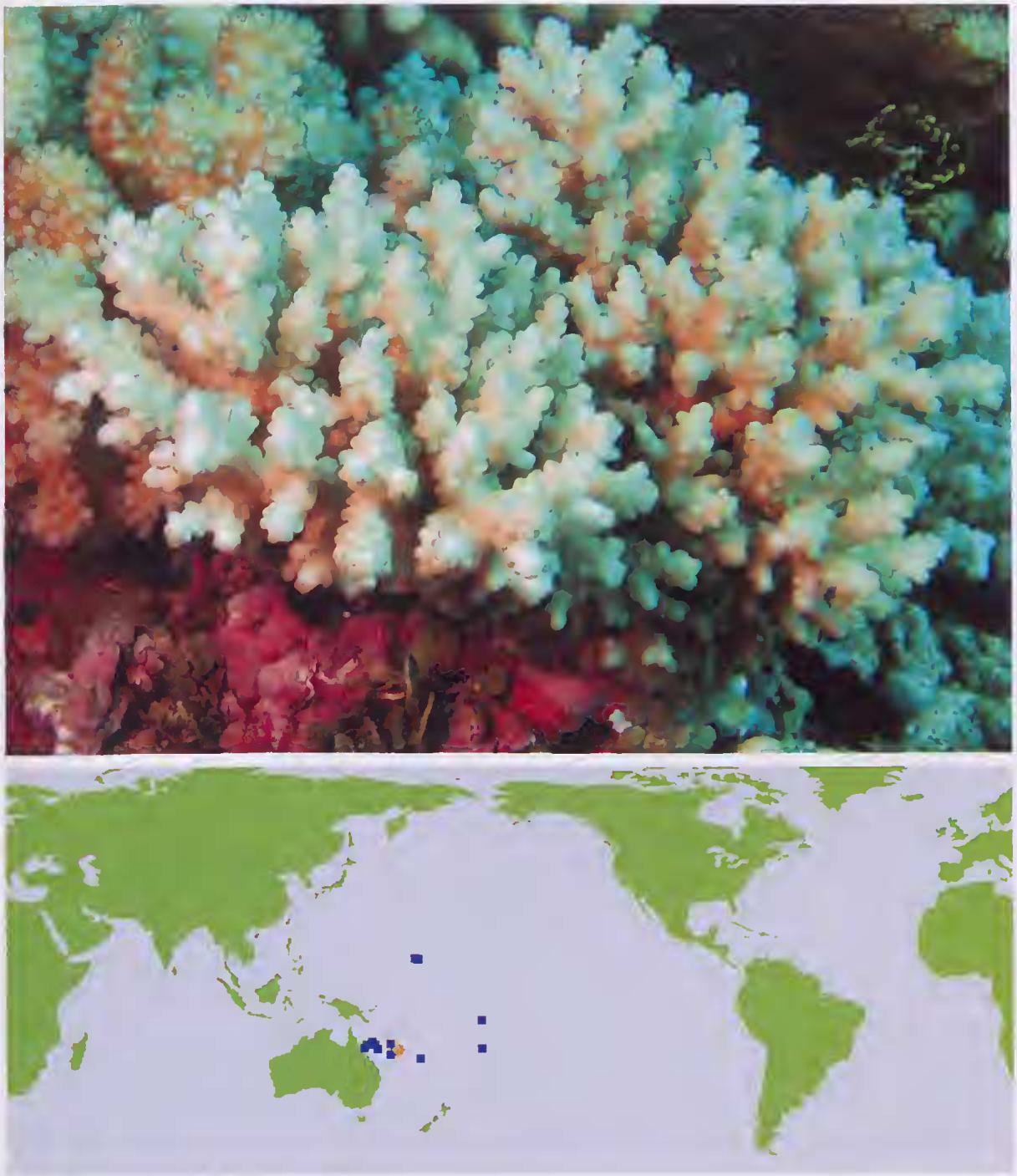


FIG. 18. *Acropora chesterfieldensis*, G60526, Osprey Reef, Coral Sea, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora clathrata (Brook 1891)

(Fig. 19)

Madrepora clathrata Brook, 1891: 459; 1893: 49, pl. 5, pl. 6 figs A–B.
Madrepora complanata Brook, 1891: 459; 1893: 70, pl. 8 fig. C.
Madrepora orbicularis Brook, 1892: 460; 1893: 37, pl. 2.
Madrepora vasiformis Brook, 1893: 37, pl. 26 fig. A.

Type locality. Mauritius (holotype NHM).

MTQ Holdings. Kenya: G59733; **Mayotte:** G63181, G63266–68, G63386–87, G63422; **Seychelles:** G47947–48, G51864–65, G59454, G59503, G59536; **La Réunion:** G33218; **Mauritius:** G33203, G39783, G54467; **Maldives:** G52006, G52071–73, G53010–16, G59836–43, G59929; **Chagos:** G51368–70; **Thailand:** G32787, G55974–77, G56128; **Indonesia:** G47188, G48801–02 Sumatra; G49749, G49766, G51695 Bali; G50925 Nusa Tenggara; G48807–09 Alor; G51713–15 Lomblen; G47486 Lombok; G47031–32, G62723 Ambon; G48803, G49748, G50926 Flores; G49761–65 Kalimantan; G48805 Semau; G47210–21, G49750–60, G51696–97 Sulawesi; G51698–702, G51711–12 Molucca Sea; G51703–10, G52405 Halmahera; G46848–55, G36218 Banda Sea; G48804, G48806 West Timor; G60755, G35767, G36035, G36041 Irian Jaya; **Australia:** G40780, G60662, G61672 West; G27359–60, G27362, G27364–65, G27367–70, G27372–73, G27375–76, G30356, G41070, G47384, G60517, G61764, G61772, G64758 Great Barrier Reef; G47283, G64980 South-East; G27361, G27377, G63800 Coral Sea; **South China Sea:** G37565, G46823, G52157, G52285; **Japan:** G38294, G47737; **Taiwan:** G43847, G45940, G47575–76, G47593; **Philippines:** G52317; **Palau:** G36237, G36537, G56639, G60438; **Papua New Guinea:** G35611, G35668, G35674, G35678, G53469–78, G53538–41, G54657; **Micronesia:** G62771 Kosrae; G41238, G62375–77 Pohnpei; **Solomon Is.:** G52586, G57912; **New Caledonia:** G35013, G58706, G58729; **Chesterfield Atoll:** G27371, G27374, G58922; **Kiribati:** G55006; **Samoa:** G34875, G34881, G41295, G54273–74.

Species group: *divaricata*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.6–3.0 mm; inner diameter 0.5–0.9 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: dimidiate; primary septa absent. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: forked.

Taxonomic note. *Acropora clathrata* reported from Kuwait in Carpenter *et al.* (1997) was found to be a new species in the *A. robusta* group, and described as *A. downingi* in Wallace (1999).

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

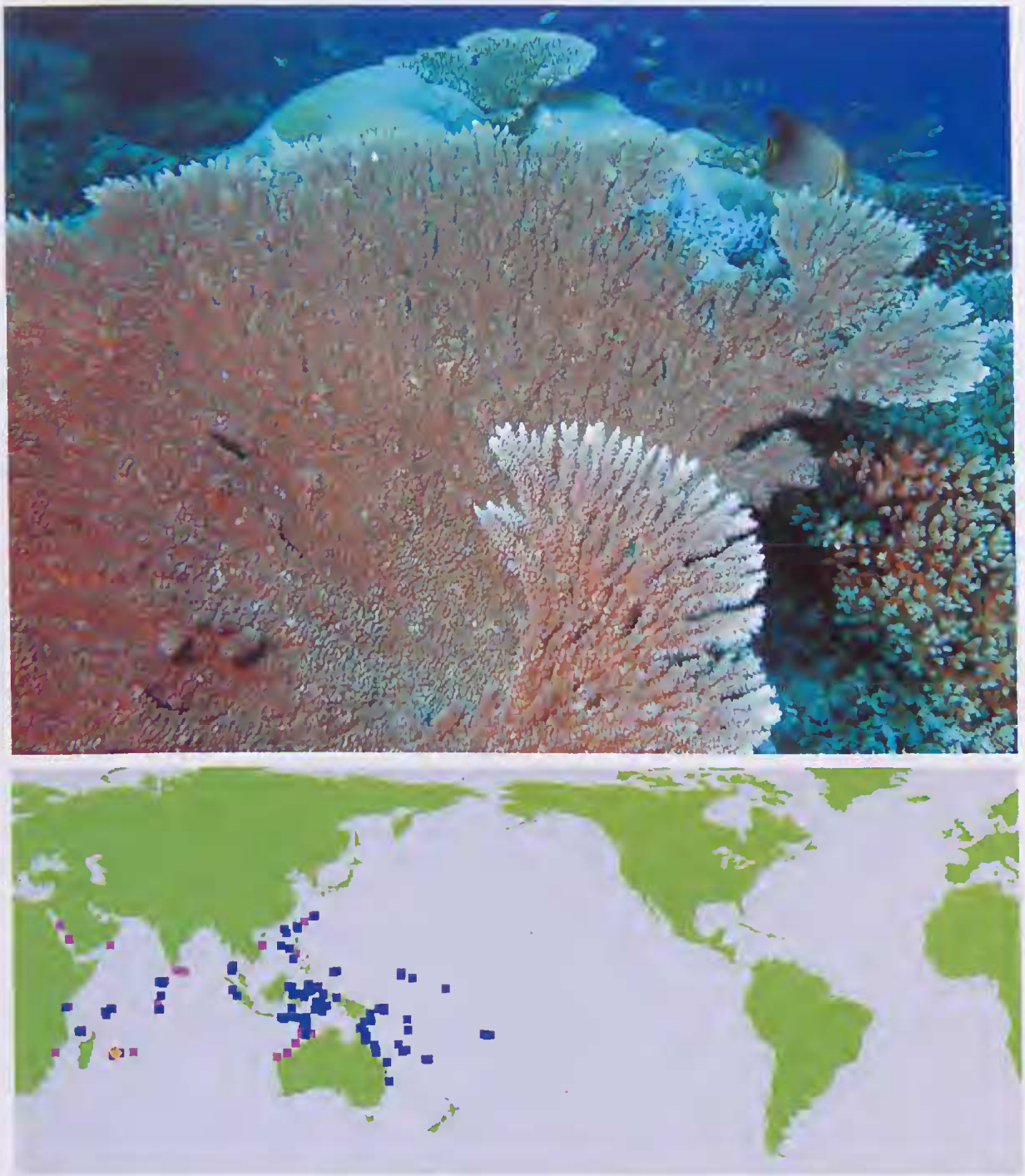


FIG. 19. *Acropora clathrata*, G63268, Mayotte, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora cytherea (Dana, 1846)

(Fig. 20)

Madrepora cytherea Dana, 1846: 441, pl. 32 figs 3a–b.
Madrepora efflorescens Dana, 1846: 441, pl. 33 fig. 6.
Madrepora candelabrum Studer, 1878: 528, pl. 2 figs 3a–b.
Madrepora symmetrica Brook, 1891: 470; 1893: 94, pl. 15.
Madrepora arcuata Brook, 1892: 452; 1893: 102, pl. 12.
Madrepora reticulata Brook, 1892 p.461; 1893: 68 pl. 4 figs A–B.
Madrepora armata Brook, 1892: 461; 1893: 100, pl. 10 figs A–B.
Acropora cytherella Verrill, 1902: 253, pl. 36 fig. 7, pl. 36A fig. 7, pl. 36F fig. 1.

Type locality. Tahiti (lectotype NMNH-SI).

MTQ Holdings. Red Sea: G53878, G54786–87 Egypt; G51210–11, G55257 Saudi Arabia; G54282, G54735–36, G54749 Yemen; **Kenya:** G35568, G58938; **South Africa:** G41046; **Mayotte:** G63300–02, G63389–94; **Seychelles:** G47933–35, G59547; **Mauritius:** G51817–18; **Rodriguez:** G33220; **Maldives:** G52010, G52076–78, G59813–14, G59955–58; **Chagos:** G51377–94; **Sri Lanka:** G55760, G56350–51; **Thailand:** G55904–07; **Malaysia:** G57654 mainland and islands; G53895 Sabah; **Indonesia:** G47170, G48531–36, G48541–43 Sumatra; G32850 Java; G50642–43 Bali; G48539 Alor; G50971 Flores; G50639–41 Kalimantan; G48538 Semau; G35815, G47270–77, G50629–38, G54168–69 Sulawesi; G54173 Molucca Sea; G54170–72, G54452 Halmahera; G46687, G46903–05, G47268–69, G48540, G50628 Banda Sea; G48537, G60725–26, G60734 Irian Jaya; **Australia:** G38368, G38394, G40863, G51539–40 West; G27044, G27674, G27676–77, G27680–81, G27829, G27831–33, G27835, G27837, G28819, G28822, G28824, G28827–28, G28836–39, G28904–05, G28907, G28910–11, G28914–18, G29729–30, G29732, G29735–36, G32453–54, G32468, G34136, G35024, G35134–37, G37362–63, G37370, G37401–2, G40912, G41304–7, G48375–77, G51124–26, G58013, G59028, G60600, G61768, G61771, G64611 Great Barrier Reef; G28820, G28823, G28825, G28829, G28831–35, G35998–6011, G58419, G58422, G64987–88 South-East; G27678, G27830, G27834, G29734, G29737–38, G35872, G35877, G39835, G39837–39, G39847, G57631 Coral Sea; **South China Sea:** G46822, G51162–64; **Japan:** G47770–72; **Taiwan:** G43848, G45943, G45946, G47609; **Philippines:** G41713, G45859; **Palau:** G56638, G56861; **Papua New Guinea:** G35636, G35641, G35649, G35821, G52781–85, G59115; **Micronesia:** G36613 Chuuk; G62459–60 Pohnpei; **Solomon Is.:** G52587, G58573, G58598; **New Caledonia:** G34962, G34995; **Chesterfield Atoll:** G27675, G27679, G28908–09, G28912, G29731, G29733, G29739–40, G38153, G38160; **Marshall Is.:** G33126, G33200, G37984, G47233, G56160, G56204–06, G57243; **Kiribati:** G54800, G54967–69; **Fiji:** G40927; **Samoa:** G36626, G38976, G38986, G38989, G41291, G43470, G43487; **Niue:** G30099, G36018–19, G50579–80; **Johnston Atoll:** G40987; **Hawaii:** G27085; **Line Is.:** G59696; **Cook Is.:** G35702 **French Polynesia:** G33106, G35539, G58656; **Tahiti:** G27105, G35543–44, G54697, G58971; **Tuamotu Archipelago:** G32864; **Austral Is.:** G30101; **Pitcairn Is.:** G35759.

Species group: *hyacinthus*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.3–2.5 mm; inner diameter 0.7–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: elongate lip; primary septa absent. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: laterally flattened.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Nomura & Mezaki (2005), Dai & Horng (2009), Turak & DeVantier (2011).

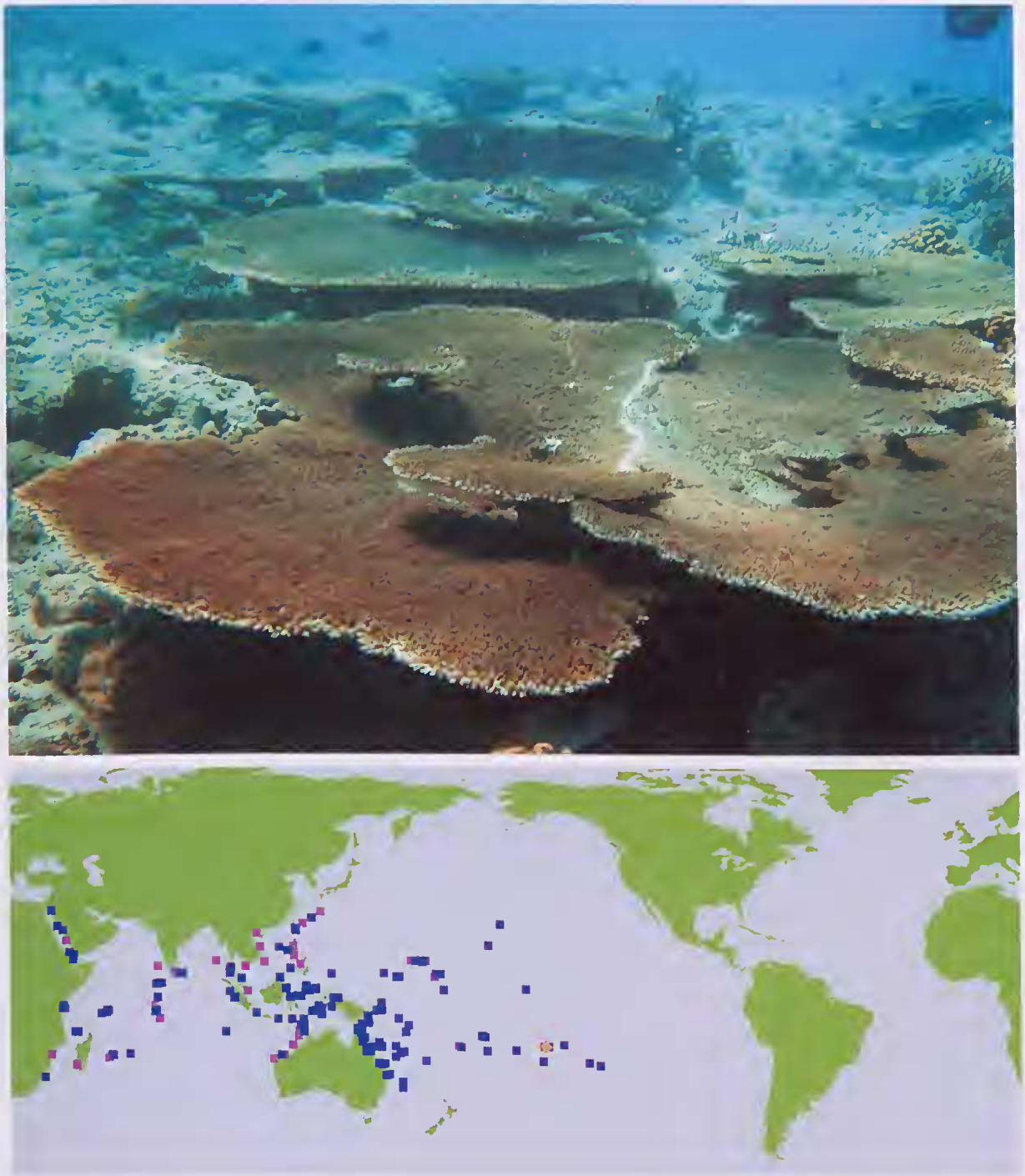


FIG. 20. *Acropora cytherea*, G59958, Ari Atoll lagoon, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora dendrum (Bassett-Smith, 1890)

(Fig. 21)

Madrepora dendrum Bassett-Smith, 1890: 452.

Type locality. Macclesfield Banks, China Sea (lectotype NHM).

MTQ Holdings. Thailand: G52642, G55998; **Australia:** G27268–70, G27272–73, G27275–78, G27380, G27382 Great Barrier Reef; **Philippines:** G41560; **Papua New Guinea**: G53316; **New Caledonia:** G40880. **Chesterfield Atoll:** G27274.

Species group: *selago*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.4–2.2 mm; inner diameter 0.5–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: laterally flattened.

Further literature. Nishihira & Veron (1995), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

FIG. 21. *Acropora dendrum,* Agarti Island, Lackshadweep, India, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora derawanensis Wallace, 1997

(Fig. 22)

Acropora derawanensis Wallace, 1997: 33, fig. 5.

Type locality. Karang Tababinga, East Kalimantan, Indonesia.

MTQ Holdings. HOLOTYPE G48963, PARATYPES G48958–62, G48965 Indonesia; **Indonesia:** G50317, G50967–70 Kalimantan; G55431–32, G58634, G58794 Sulawesi; G63173–75 Halmahera; **Philippines:** G53571; **Micronesia:** G59253–55, G62541, G62542 Pohnpei.

Species group: *horrida*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.1–1.4 mm; inner diameter 0.5–1.0 mm; primary septa to ¾ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: costate; spinule shape: blunt irregular.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

FIG. 22. *Acropora derawanensis*, G62541, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora desalwii Wallace, 1994

(Fig. 23)

Acropora desalwii Wallace, 1994: 972, fig. 12.

Type locality. Banda Sea, Gunung Api, Banda Islands, Indonesia.

MTQ Holdings. HOLOTYPE G46450, PARATYPES G46448–49, G46451–52, G46902 Indonesia; **Mayotte:** G63769; **Indonesia:** G48229, G48231–33, G59663, G63341 Sulawesi; G48159, G50620 Banda Sea; G60737–38 Irian Jaya; **Papua New Guinea:** G59106, G59704; **Micronesia:** G59263, G59646, G62466, G62590, G62633–35 Pohnpei; **Solomon Is.:** G58571.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.0–1.2 mm; inner diameter 0.6–0.8 mm; primary septa to ¼ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa absent. ***Coenosteum:*** different on and between radials: between radials: open spinules, on radials: costate; spinule shape: blunt irregular.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

FIG. 23. *Acropora desalwii*, G62466, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora digitifera (Dana, 1846)

(Fig. 24)

Madrepora digitifera Dana, 1846: 454.
Madrepora pyramidalis Klunzinger, 1879: 12, pl. 1 fig. 2, pl. 4 fig. 6, pl. 9 fig. 7.
Madrepora leptocyathus Brook, 1891: 463; 1893: 159, pl. 16 fig. C.
Madrepora bacodactyla Brook, 1892: 453; 1893: 158, pl. 13 figs A–B.
Madrepora brevicollis Brook, 1892: 454; 1893: 159, pl. 27 figs A–B.
Acropora wardii Verrill, 1902: 248, pl. 36 fig. 3, pl. 36B fig. 4, pl. 36F fig. 4.
Acropora schmitti Wells, 1950: 39, figs 1–2.

Type locality. Arno Atoll, Marshall Islands (neotype MTQ).

MTQ Holdings. NEOTYPE: G37980. **Red Sea:** G57780, G54886–87, G58562 Egypt; G55253 Saudi Arabia; G49316, G58867 Yemen; **Kenya:** G54932–34, G58939; **Comoros:** G55096; **Mayotte:** G63279–80, G63395; **Persian Gulf:** G63134 Kuwait; **Seychelles:** G47909, G59442, G59445, G59476, G59490, G59519; **La Réunion:** G33209, G33225; **Mauritius:** G33206, G54463; **Maldives:** G52085, G59791–95, G59854, G59988, G60291, G60302, G60378, G61633; **Chagos:** G51798; **Sri Lanka:** G55580, G56334–35; **Thailand:** G32776, G32796, G49314–15, G55990–91, G55997, G56071–72, G56120, G56124, G59411; **Singapore:** G41025; **Indonesia:** G48629–30 Sumatra; G59717 Bali; G48619, G48635–37 Alor; G47544 Lombok; G49803–13 Riau; G47035, G50810 Ambon; G48631–32, G50393 Flores; G39805, G39813–16, G50096, G50394, G50547–50 Kalimantan; G47540–42, G50542–46, G51213, G51600–01, G56709–13, G56799–802 Sulawesi; G51602–03, G51607 Molucca Sea; G51604–06, G54539 Halmahera; G48638 Banda Sea; G48618, G48633–34 West Timor; **Australia:** G40454, G40458, G40856, G47004–5, G48717–20, G48799, G52490–543, G52673–76, G61670, G61676 West; G48120, G51273–74, G58986 North; G27002, G27099, G27476–77, G29502, G29876, G30023, G32219, G35017, G35019, G35382–83, G35768, G35771–73, G40902, G48311–12, G48326, G51114–19, G56373, G56819, G56821, G57599, G58240, G58356, G58369, G58387, G62284 Great Barrier Reef; G31155, G35769–70, G57505–6, G57807, G58495, G60091–92, G60400, G64152–54 South-East; G27004, G27478, G27480, G32217, G33513 Coral Sea; **Japan:** G36845–46, G38045, G38064, G47752–55, G47968–69, G62313, G62318, G62331, G62334, G62840, G62859; **Taiwan:** G56706–08; **Philippines:** G32829, G52330–32; **Palau:** G55003, G60209–13; **Guam:** G40730, G63331; **Papua New Guinea:** G35915, G52796–804, G53553, G56714–18; **Micronesia:** G40699–701, G40707–08, G41163, G41170 Yap; G62414, G62461, G62636 Pohnpei; G62788–90 Kosrae; **Solomon Is.:** G56719–23; **New Caledonia:** G33089, G33102, G35604, G61018; **Chesterfield Atoll:** G32216, G38157–58, G38168, G51243; **Vanuatu:** G35601; **Marshall Is.:** G37547, G37550, G37977, G47225–26, G47234, G56153, G56166, G57193–207; **Kiribati:** G32871, G54795–96, G54977; **Fiji:** G34740; **Samoa:** G34726, G34767, G41194–97, G54266–67; **Niue:** G36086, G36110; **Cook Is.:** G36087, G53915 **Tuamotu Archipelago:** G32861.

Species group: *humilis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.2–3.8 mm; inner diameter 0.6–1.6 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: dimidiate; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: elaborate.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Chan *et al.* (2004), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

FIG. 24. *Acropora digitifera,* Addu Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora divaricata (Dana, 1846)

(Fig. 25)

Madrepora divaricata Dana, 1846: 477, pl. 41 fig. 2–2a.
Madrepora tenuispicata Studer, 1880: 20, fig. 1a–b.
Madrepora scabrosa Quelch, 1886: 152, pl. 10 fig. 2.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Red Sea: G54711 Saudi Arabia; G54733–34, G54761–62, G54772, G54854, G54945 Yemen; **Kenya:** G35567, G59605–06; **South Africa:** G41047; **Mayotte:** G63209, G63294, G63403; **Persian Gulf:** G54790, G58682 Saudi Arabia; **Seychelles:** G47951, G59474, G59513, G59515, G59526, G59532, G59541, G59544, G59581, G59585; **Aldabra:** G36935, G36937; **Maldives:** G53018–20, G59808, G60331, G61591–98; **Chagos:** G51431; **Sri Lanka:** G55758; **Thailand:** G32779, G36137, G54742–44, G54835, G54840, G56458–60, G59324, G59330–32, G59396, G59399, G59406–07, G59421, G63000; **Malaysia:** G52611, G57758, G59358 mainland and islands; G41137, G53893 Sabah; **Singapore:** G45889; **Indonesia:** G49774–82 Sumatra; G49792, G49794–95, G59035 Bali; G50923–24, G51068 Nusa Tenggara; G49789–91 Alor; G50920–22, G51066–67 Taka'bonerate; G50738 Seribu Is; G51179–82 Ambon; G49783–86 Flores; G48981 Kalimantan; G35528, G49771–73, G49793, G53670 Sulawesi; G49767–70 Banda Sea; G49787–88 West Timor; G61048 G57104 Irian Jaya; **Australia:** G40449, G40466, G41151, G41158, G47018–20, G51548 West; G58990 North; G27020, G27024, G27048, G27301, G27304, G27309, G27311–13, G27315, G27317, G27546–54, G27557–58, G27560–61, G27686, G27714, G27717–25, G27729–30, G27732–35, G27737, G27739–40, G27742, G27744–45, G28139–44, G28429–35, G28437, G28440–41, G28443, G28869–74, G28900, G28902–03, G29089, G29095–97, G29099–104, G29106–09, G29775–83, G29785–86, G29934, G29936–37, G29939–40, G29942–46, G30114, G30637–46, G30648–54, G30656, G30658–63, G30665–67, G30896–903, G32186–88, G32190–200, G32202–04, G32207–08, G37398, G39874, G39880, G47380–82, G47620, G48307, G49225–26, G51108–10, G57036, G57519, G57880, G57984–85, G58102, G58241–42, G58287, G58350, G58363, G58370–71, G58388, G63928, G64767, G64834 Great Barrier Reef; G28901, G30657, G32189, G34227, G56542, G56544, G57508, G57806, G58497, G60090, G60195, G61749, G61751, G64976 South-East; G27715, G27728, G28137, G28145, G28442, G30647, G33441, G33445, G33459, G33505 Coral Sea; **South China Sea:** G37864, G52185, G52355; **Japan:** G38024, G38046, G47776–78, G62836; **Taiwan:** G45805; **Philippines:** G32822, G41552, G41698, G41710, G45867–68; **Palau:** G56629; **Papua New Guinea:** G53428–32, G53526–27; **Micronesia:** G59284 Pohnpei; **New Caledonia:** G34948, G34978, G35011, G54688, G58733; **Chesterfield Atoll:** G27712–13, G27727, G27738, G28138, G28436, G28438–39, G38244; **Marshall Is.:** G57281–82; **Kiribati:** G54806, G54821; **Fiji:** G40942, G58968; **Samoa:** G41299, G43474, G43480; **Cook Is.:** G55521–25; **French Polynesia:** G58773.

Species group: *divaricata.*

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.8–3.0 mm; inner diameter 0.7–1.1 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: dimidiate; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: forked.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

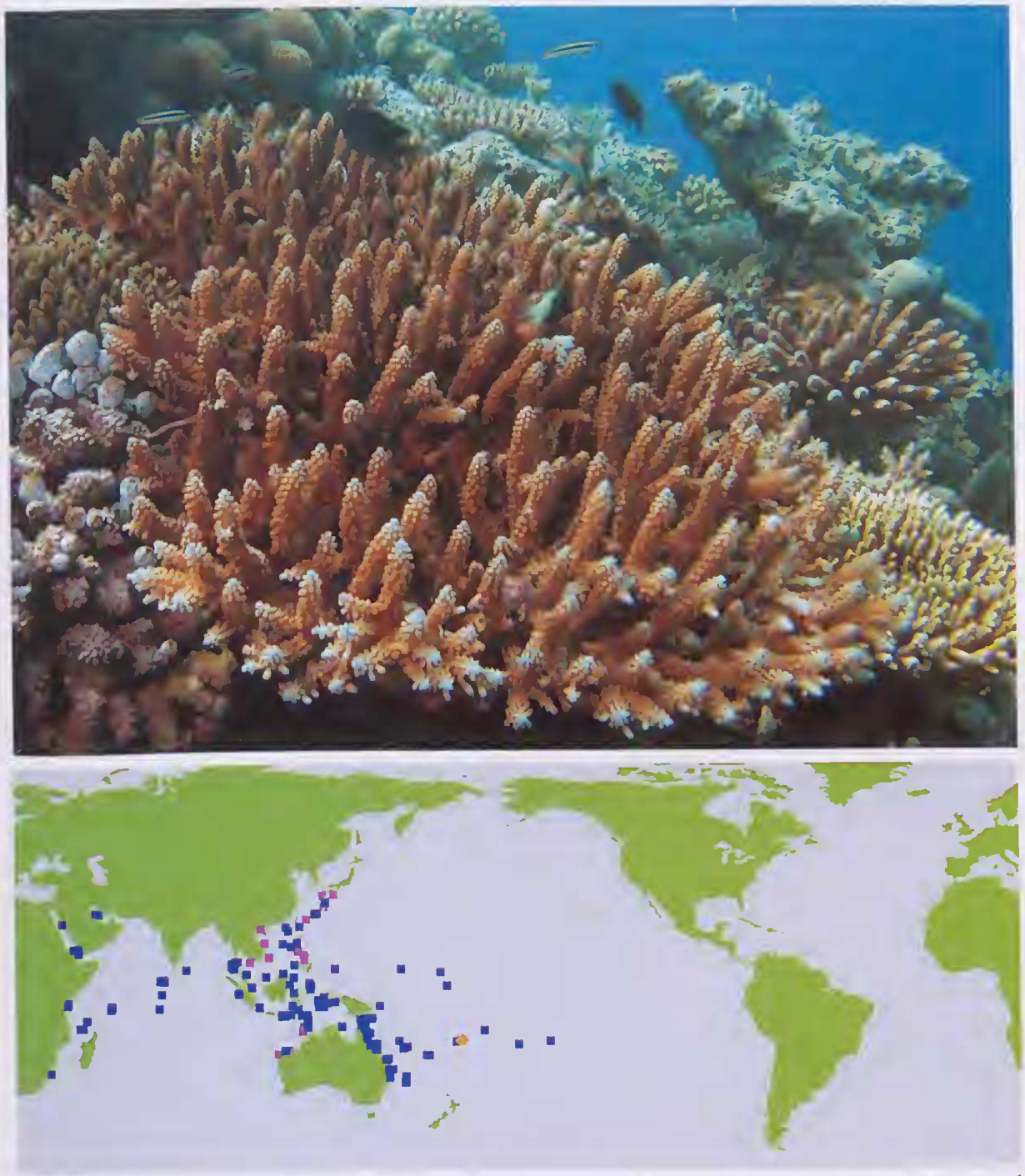


FIG. 25. *Acropora divaricata*, G61596, Ari Atoll lagoon, , Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora donei Veron & Wallace, 1984

(Fig. 26)

Acropora donei Veron & Wallace, 1984: 287 figs 698, 702, 708.

Acropora akajimensis Veron, 1990: 102 figs 7, 9.

Type locality. Turtle Islands, Australia.

MTQ Holdings. HOLOTYPE G55080 Great Barrier Reef, Australia; G32475 *A. akajimensis* HOLOTYPE from Japan; **Red Sea:** G54280–81, G62970 Yemen; **Mayotte:** G63305–06, G63362; **Maldives:** G59815–16, G59853, G59974–82, G60323, G60373; **Thailand:** G56087–89; **Malaysia**: G57668, G57763 mainland and islands; G53931 Sabah; **Indonesia:** G50320, G53661 Sumatra; G50326–27 Bali; G48657, G50322, G53662 Alor; G53964 Lomblen; G47511–12 Lombok; G53965 Tukangbesi Islands; G47513 Ambon; G50321 Flores; G50324, G50325 Kalimantan; G47492–510, G47514, G49347, G50323, G53946 Sulawesi; G53947–49, G53962–63 Molucca Sea; G53950–61, G63153 Halmahera; G47491, G48041, G50319 Banda Sea; G48656, G60763–69, G61000 Irian Jaya; **Australia:** G40855 West; G48126, G48129–30 North; G27120–22, G27125–34, G27136, G27146–51, G27153–56, G27160, G27162, G27164, G27300, G27302, G27306–7, G27379, G29481, G29483, G30738, G31176–78, G35058–59, G35407, G39953, G40961, G47389, G57986, G60597, G64717 Great Barrier Reef; G27123–24, G27158, G29482, G29484, G56607, G58414, G58423, G58500, G60059–60, G64982 South-East; G27305, G57618 Coral Sea; **South China Sea:** G46827, G52186–89; **Japan:** G38017, G38019, G38037, G47767–68, G62854; **Taiwan:** G43839–40, G45821–23, G45942, G45945, G47591; **Palau:** G36533, G56635, G60196; **Papua New Guinea:** G35654, G52940–44, G53598; **Micronesia:** G36612 Chuuk; G62511–12, G62548, G62551 Pohnpei; G62753 Kosrae; **Solomon Is.:** G52595, G58595; **Chesterfield Atoll:** G27303, G27314; **Marshall Is.:** G37483, G56157, G57242, G57316.

Species group: *selago*.

Description. ***Colony outline:*** determinate, predominantly arborescent-table. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.0–4.2 mm; inner diameter 0.8–1.4 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

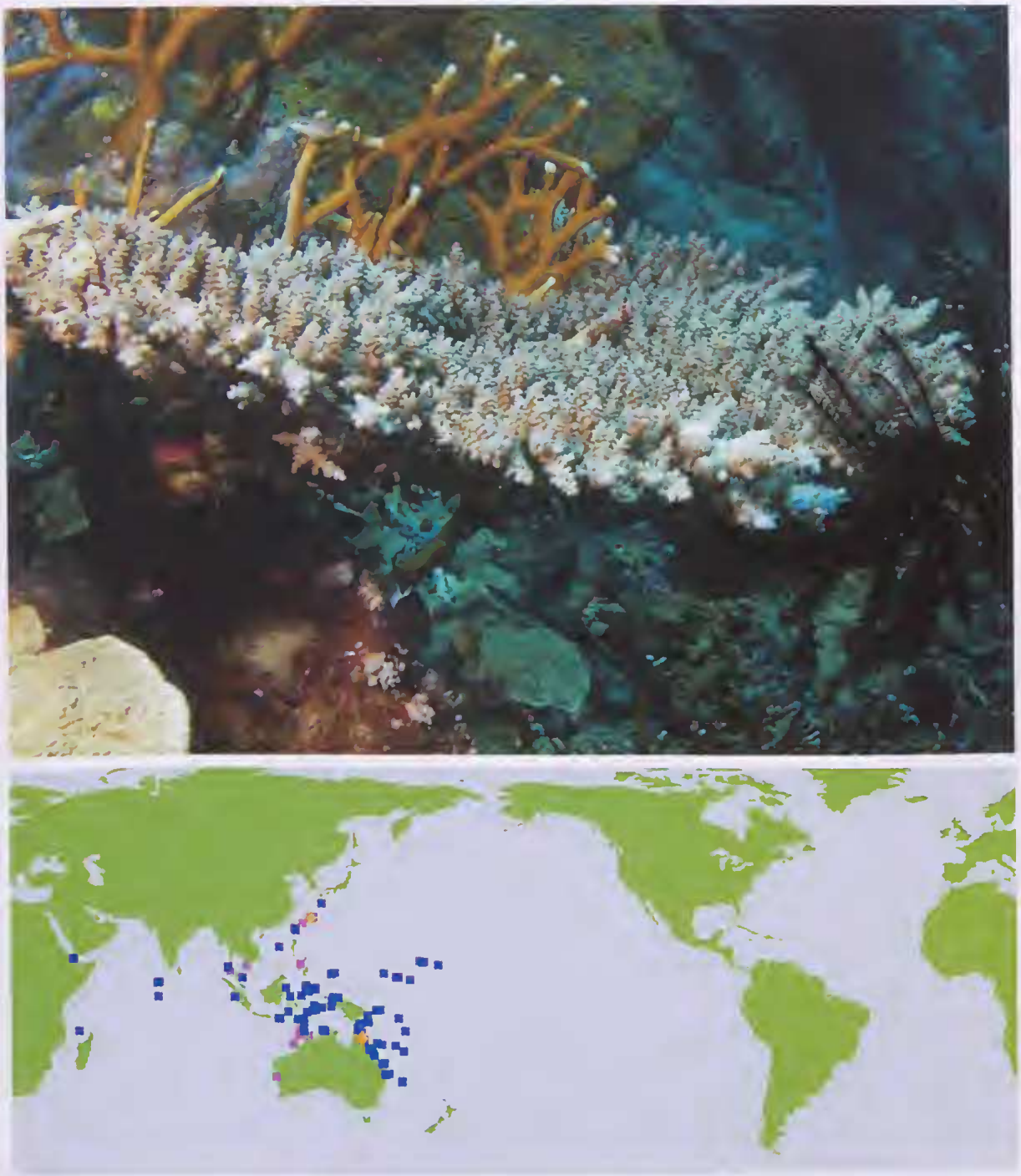


FIG. 26. *Acropora donei*, G62548, Ant Atoll, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora downingi Wallace, 1999

(Fig. 27)

Acropora downingi Wallace, 1999: 204, pl. 42.

Type locality. Kubbar Island, Kuwait.

MTQ Holdings. HOLOTYPE G55049, PARATYPES G55064–69, G55221–22 Kuwait; **Red Sea:** G58872–73, G62984 Saudi Arabia; G51945–46, G55038–45 Yemen; **Persian Gulf:** G54706–07, G55035–37, G55046–48, G55071, G55204–20, G58669–76 Saudi Arabia; **Oman:** G40957–58, G55070; **Socotra:** G56949, G56959; **Seychelles:** G59686–91.

Species group: *robusta*.

Description. ***Colony outline:*** determinate, predominantly arborescent-table. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.6–2.5 mm; inner diameter 0.7–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Taxonomic note. This species was recorded in the type locality as *Acropora clathrata* in Carpenter *et al.* (1997), prior to its recognition as a new species.

Further literature. Veron (2000), Pichon *et al.* (2010).

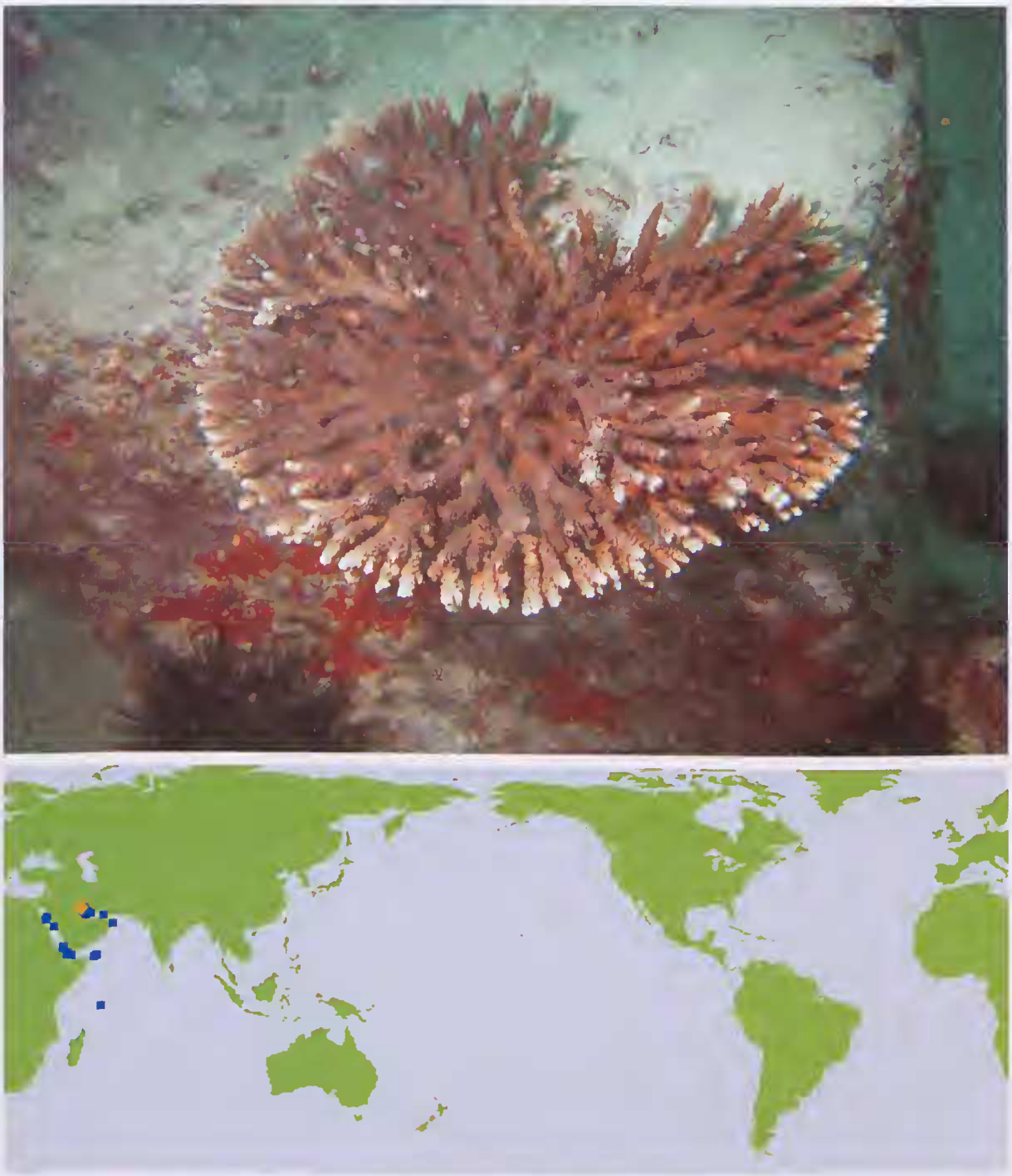


FIG. 27. *Acropora downingi*, G59688, St Ann I., Seychelles, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora echinata (Dana, 1846)

(Fig. 28)

Madrepora echinata Dana, 1846: 464, pl. 36 figs 1–1a.
Madrepora durvillei Milne Edwards & Haime, 1860: 148.
Madrepora procumbens Brook, 1891: 467; 1893: 188, pl. 29 fig. D.

Type locality. Fiji (lectotype NMNH-SI).

MTQ Holdings. Maldives: G60490, G59788–90, G59852, G59918–19; **Thailand:** G32781, G55888, G55889; **Malaysia:** G53888 Sabah; **Indonesia:** G50961 Nusa Tenggara; G47708–09 Lombok; G51676–77 Tukangbesi Islands; G43810, G50962–63 Taka'bonerate; G50328 Flores; G50336–45 Kalimantan; G50329 Semau; G47706–07, G49955–58, G50330–35, G51669, G55410, G63337–38 Sulawesi; G51670–75, G52407 Halmahera; G47704–05 Banda Sea; G60759, G61003 Irian Jaya; **Australia:** G28166, G28394, G28406, G28409, G28459–62, G28488, G56982, G60518 Great Barrier Reef; G28458, G60537, G60571, G60575 Coral Sea; **South China Sea:** G52281; **Palau:** G36227, G56845, G60434; **Papua New Guinea:** G35899, G53193–94, G53616–20, G54564–65, G55085; **Micronesia:** G59258, G59283, G59655, G62552–58, G62623–24 Pohnpei; **Solomon Is.:** G35594, G52110; **New Caledonia:** G58713; **Kiribati:** G54988.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 0.8–1.8 mm; inner diameter 0.5–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: costate; spinule shape: no spinules.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

FIG. 28. *Acropora echinata*, G62624, Pohnpei, Micronesia 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora eibli Pillai & Scheer, 1976

(Fig. 29)

Acropora eibli Pillai & Scheer, 1976: 33, pl. 10.

Type locality. Rasdu Atoll, Maldives (holotype HSMD).

MTQ Holdings. Maldives: G60011–14 topotypes from Rasdoo Atoll, Maldives.

Species group: not determined.

Description. ***Colony outline:*** determinate, predominantly plate. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, tapering; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.4–1.6 mm; inner diameter 0.6–0.7 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: round to oval; primary septa to ¾ R. ***Coenosteum:*** same on and between radials: reticulate, spinule shape: forked.

Taxonomic note. This species is taken out of the synonymy of *A. tenella*, following examination of topotypic specimens.

FIG. 29. *Acropora eibli*, G60012, Ari Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue square = MTQ specimen; orange diamond = type locality.

Acropora elegans (Milne Edwards & Haime, 1860)

(Fig. 30)

Madrepora elegans Milne Edwards & Haime, 1860: 163, pl. E1 fig. 3.

Acropora magnifica Nemenzo, 1971: 148, pl. 3 fig. 1.

Type locality. unknown (holotype MNHN).

Indonesia: G55124 Flores; G56509, G58636, G59381 Sulawesi; G63166 Halmahera; G60785–89, G60791–93, G60989 Irian Jaya; **Australia:** G63661–66 Great Barrier Reef; G63660 Coral Sea; **Micronesia:** G62365 Pohnpei.

Species group: *elegans*.

Description. ***Colony outline:*** determinate, predominantly plate or layered plates. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 2.5–4.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 0.8–2.1 mm; inner diameter 0.4–0.8 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. *Acropora elegans* reported by Wallace (1997) from the Hermit Isles, Papua New Guinea was found to be a new species, *A. pichoni* Wallace, 1999.

Further literature. Veron & Nishihira (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011), Bridge *et al.* (2012).

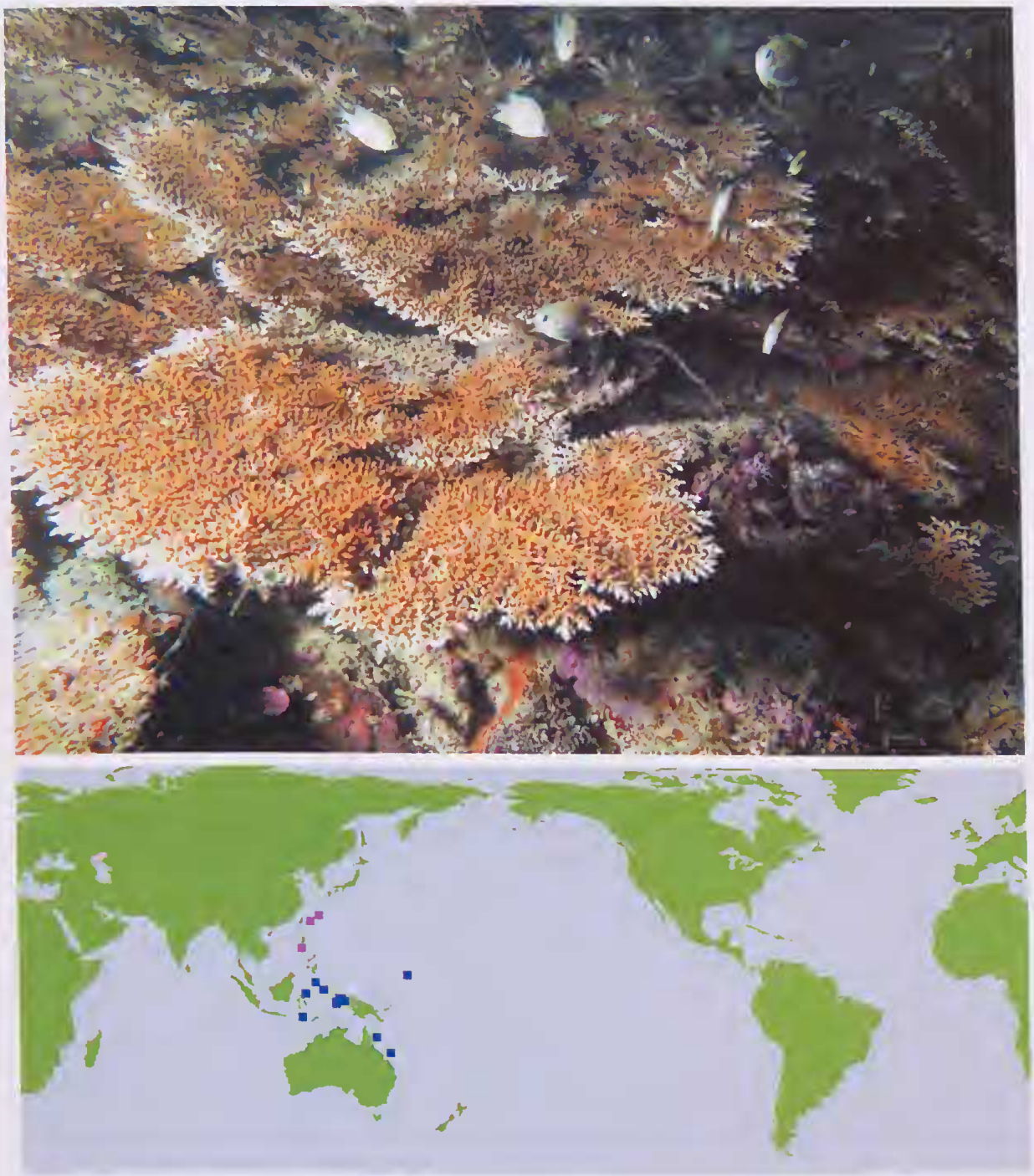


FIG. 30. *Acropora elegans*, mesophotic zone, Tydeman Reef, Great Barrier Reef, Australia, 2011 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora elseyi (Brook, 1892)

(Fig. 31)

Madrepora elseyi Brook, 1892: 456; 1893: 172, pl. 11 figs E–F.

Madrepora exilis Brook, 1892: 457; 1893: 172, pl. 10 figs C–D.

Acropora profusa Nemenzo, 1967: 75, pl. 24 fig. 3.

Type locality. Australia (Torres Strait) (lectotype NHM).

MTQ Holdings. Red Sea: G54727, G54747, G54856, G62967–68 Yemen; **Socotra:** G57399, G57410–11, G58523–24; **Mayotte:** G63346; **Seychelles:** G47954; **Mauritius:** G55570, G51872; **Maldives:** G52013, G59810, G59855–56, G59934–38, G59987, G60332, G60370; **Thailand:** G32782, G55962–71, G56080, G56139, G56451–53, G59430; **Malaysia:** G52615, G57660, G57672 mainland and islands; G40026, G41132, G53922–23 Sabah; **Indonesia:** G51644, G53771–72, G59072 Sumatra; G49918, G50504, G59045 Bali; G50986–87 Nusa Tenggara; G50502–03, G53773 Alor; G47837 Lombok; G50594, G59075–76 Flores; G50506–10, G53774 Kalimantan; G35511, G35811, G47835–36, G49915–17, G50501, G50505, G51643, G53770, G55456–57, G59090, G59384 Sulawesi; G51638–42 Halmahera; G47833–34, G48162–65 Banda Sea; G60988, G60993–94, G61005–06 Irian Jaya; **Australia:** G27031–33, G27069, G27100, G27985–89, G27991, G27993–96, G28318–24, G28326–30, G28332–38, G28373–75, G28377, G28379–83, G28386–87, G28389, G28490, G29536, G29538–44, G29546–48, G29550–52, G29554–58, G30219–24, G30226–28, G30230–31, G30397–406, G32461, G35016, G35021, G35023, G35129–33, G37364–65, G37394–95, G39772, G40903, G40910, G49993, G57018–19, G57512, G57520, G57734, G57893, G57991, G57996, G58057, G58176, G58288–89, G58301, G58372, G58389, G58400, G58528, G60603, G64675 Great Barrier Reef; G28385, G29549, G30225, G57619, G57622, G57642 Coral Sea; **South China Sea:** G52277; **Japan:** G47759; **Taiwan:** G45833; **Philippines:** G41553–55, G41711; **Palau:** G56892, G56908–09; **Papua New Guinea:** G35618, G35900–02, G53289–06, G53562, G53717, G54658–59; **Micronesia:** G59264, G59652, G62510 Pohnpei; **Solomon Is.:** G58579, G58597, G58994; **New Caledonia:** G34957–58, G54686, G58700, G58711, G61034–35, G61197–98; **Chesterfield Atoll:** G27990, G27992, G58924; **Marshall Is.:** G56214–15; **Fiji:** G33314, G34812–13; **Johnston Atoll:** G40988; **Cook Is.:** G35697, G35718, G35728, G35940, G55528–35.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/ radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 0.9–2.3 mm; inner diameter 0.6–0.9 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: open spinules; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

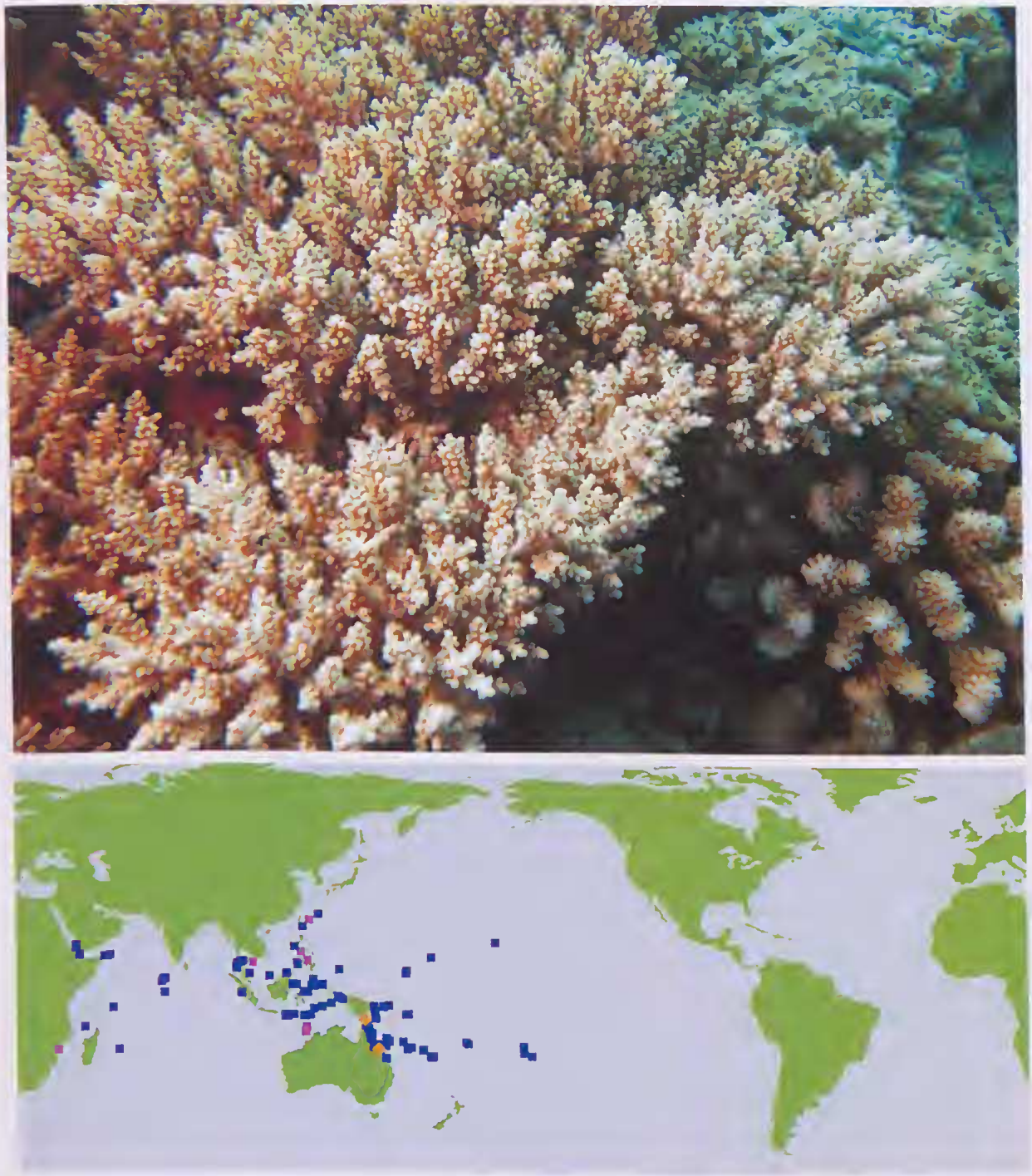


FIG. 31. *Acropora elseyi*, G60370, Ari Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora eurystoma (Klunzinger, 1879)

(Fig. 32)

Madrepora eurystoma Klunzinger, 1879: 16, pl. 1 fig. 8, pl. 4 fig. 7a–b, pl. 9 fig. 12a–f.

Type locality. Koseir, Red Sea (holotype MNB).

MTQ Holdings. Red Sea: G54866–69, G58563, G54888–89, G57773 Egypt; G54870, G55187, G58679 Saudi Arabia; G54941 Sudan; G54858 Yemen.

Species group: *loripes*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 3.0–3.5 mm; inner diameter 1.2–2.0 mm; primary septa to 1/3 R. ***Radial corallites:*** large; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Wallace (1999), Veron (2000).

Acropora fenneri Veron, 2000

Acropora fenneri Veron, 2000, vol. 1: 416–17; 2002: 64–66, figs 127–131.

Type locality. Calamian Islands, Philippines (? holotype MSI-UP).

MTQ Holdings. G60255 Calamian Islands, Philippines (figured specimen: Veron 2002: fig. 129).

Description. See Veron (2002).

Taxonomic note. This specimen appears to be different from the 'holotype' deposited at MSI-UP. Affinities with *A. horrida* are very strong; in fact the MTQ specimen may be a hispidose example of *A. horrida*.

Acropora filiformis Veron, 2000

Acropora filiformis Veron, 2000, vol. 1: 418; 2002: 66–68, figs 132–135.

Type locality. Calamian Islands, Philippines (? holotype MSI-UP).

MTQ Holdings. G60255 Calamian Islands, Philippines.

Description. See Veron (2002).

Taxonomic note. This specimen has the same collecting details as the 'holotype' deposited at MSI-UP and may be part of the same colony. The axial corallite tips are broken on all branches.

FIG. 32. *Acropora eurystoma*, Red Sea (photo: L. Devantier). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora florida (Dana, 1846)

(Fig. 33)

Madrepora florida Dana, 1846: 466, pl. 37 fig. 1.
Madrepora gravida Dana, 1846: 470.
Madrepora brachyclados Ortmann, 1888: 149, pl. 6 fig. 1.
Madrepora compressa Bassett-Smith, 1890: 452.
Madrepora polymorpha Brook, 1891: 161, pl. 31 figs B–D.
Madrepora affinis Brook, 1893: 60, pl. 28 fig. F.
Acropora multiramosa Nemenzo, 1967: 73, pl. 24 figs 1–2.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Kenya: G35553; **South Africa:** G41040; **Mayotte:** G63180, G63195–97; **La Réunion:** G33214; **Mauritius:** G54908; **Rodriguez:** G33219; **Chagos:** G51354; **Sri Lanka:** G55583; **Thailand:** G32803, G56042–48, G56113, G56130, G56437, G56058–61, G59395; **Malaysia:** G52610, G57651, G57671 mainland and islands; G40022, G40024 Sabah; **Singapore:** G45890; **Indonesia:** G33357, G47179–83, G48431–34 Sumatra; G32842 Java; G50255, G50271–72, G50400, G51769 Bali; G51003–05, G51010 Nusa Tenggara; G48442–53, G50254 Alor; G51480–83, G54545 Lomblen; G47488–89 Lombok; G49822–23 Riau; G51484–85 Tukangbesi Islands; G51009 Taka'bonerate; G50577 Seribu Is; G36181, G36222, G46842, G50797–99, G50801, G62722 Ambon; G48435–39, G50484, G51008 Flores; G39792, G50262–70, G50399, G51006–07 Kalimantan; G48441 Semau; G34181–87, G47195–07, G47247–48, G47841, G50256–61, G50395–98, G50795–96, G50800, G51011–12, G51462 Sulawesi; G51463–68, G51478–79 Molucca Sea; G51469–77, G52408–09 Halmahera; G46834–41, G47332 Banda Sea; G48440, G35764–65 Irian Jaya; **Australia:** G40459, G40779, G40868, G48764–69, G61092 West; G27053, G27072, G27884, G27886–87, G27889–96, G27898, G28185, G28188–89, G28191–94, G29571–81, G29583, G30354, G32471, G35126, G37405, G40968, G51107, G51297, G52035, G56920, G56970, G58004, G58907, G60558 Great Barrier Reef; G58501, G59371 South-East; G27885, G28186–87, G29584 Coral Sea; **South China Sea:** G37571, G46818–19, G50573–74; **Japan:** G36840, G38031, G47758, G62295, G62301, G62303–04, G62306; **Taiwan:** G43845, G45913, G45926, G45933–34; **Philippines:** G32827, G41570–71, G41707, G41943–47, G45865, G50571–72, G50575–76, G52378; **Palau:** G36231, G36541, G56863; **Papua New Guinea:** G35614, G35667, G35669, G35675, G35910, G53367–83, G55121; **Louisiade Archipelago:** G33358–59 North: G40868 Timor Sea; **Micronesia:** G40768–69, G40771, G40778 Yap; G37989, G37992 Chuuk; G41237, G62378–83, G62485, G62514, G62528 Pohnpei; G62777–81 Kosrae; **Solomon Is.:** G58593, G59140; **New Caledonia:** G33097, G34954, G58722–23, G58730, G58735, G60247, G61019; **Marshall Is.:** G33125, G33150–51, G55050, G57322; **Fiji:** G34753, G34810–11; **Cook Is.:** G35720.

Species group: *florida*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2–3 mm; inner diameter 0.7–1.4 mm; primary septa to 2/3 R. ***Radial corallites:*** large; three synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

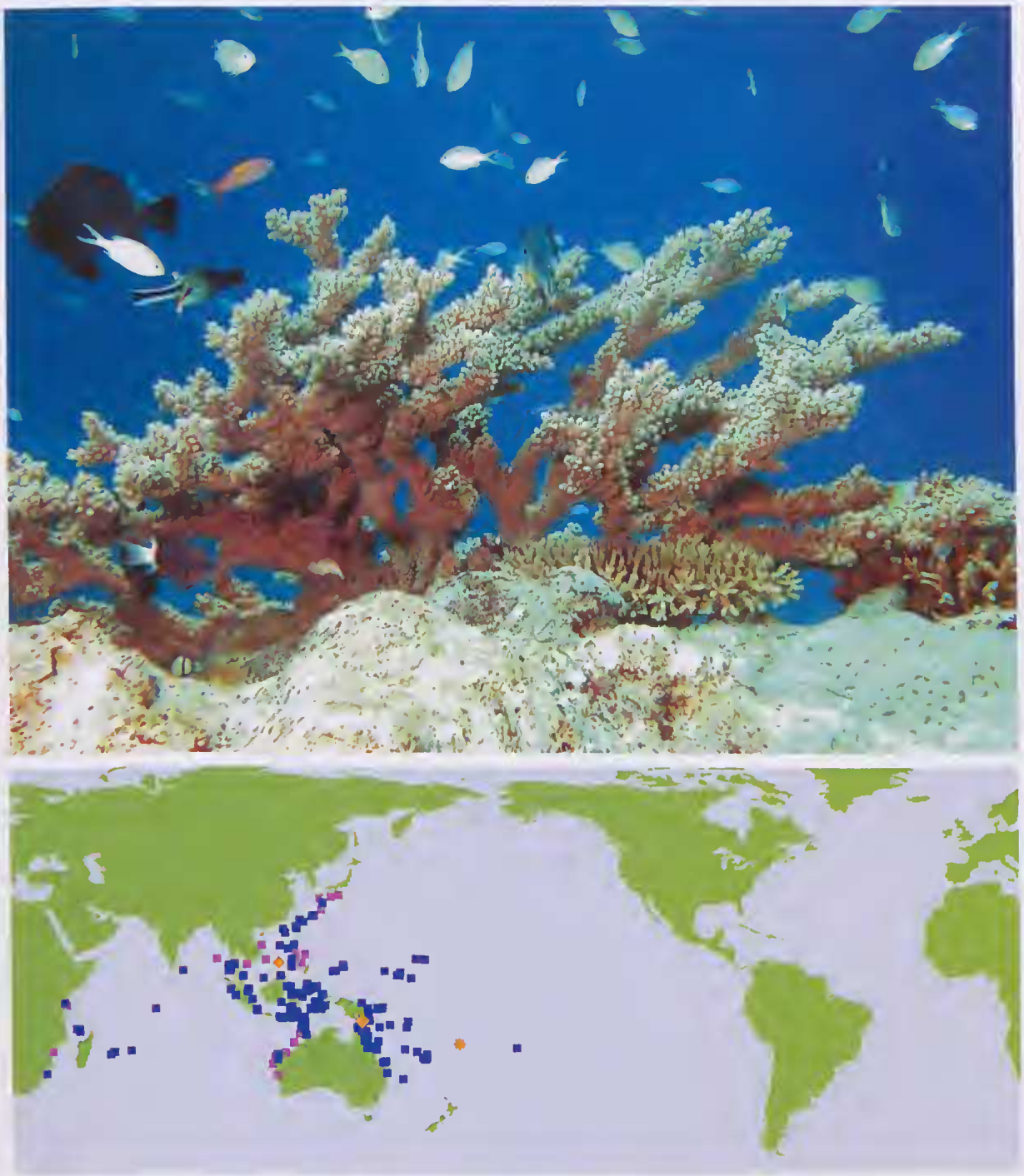


FIG. 33. *Acropora florida*, Ribbon Reefs, Great Barrier Reef, Australia, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora gemmifera (Brook, 1892)

(Fig. 34)

Madrepora gemmifera Brook, 1892: 457; 1893: 142, pl. 21.

Madrepora australis Brook, 1892: 453; 1893: 155, pl. 23 fig. C.

Madrepora scherzeriana Brüggemann, 1877: 397.

Type locality. Rocky Island Great Barrier Reef (lectotype NHM).

MTQ Holdings. Red Sea: G57774 Egypt; G55233–34 Saudi Arabia; **Kenya:** G58944; **Mayotte:** G63282; **Seychelles:** G47910, G59504, G59506; **Rodriguez:** G33224; **Maldives:** G52003, G52086, G59811–12, G59922, G60306, G60310, G60311; **Indonesia:** G58691, G47175–76, G48607–09, G50390 Sumatra; G49879 Bali; G50893–94 Nusa Tenggara; G48613–15 Alor; G47485 Lombok; G35968 Maluku; G51534–36, G51668 Tukangbesi Islands; G36225, G47033, G47049, G50831–32 Ambon; G48610–12, G48616, G49634 Flores; G49031–36, G49877–78 Kalimantan; G47255–67, G47972, G49027–30, G50533, G51521–22, G51537, G51590, G56686–90 Sulawesi; G51524, G51532–33, G51591–92, G51599 Molucca Sea; G51525–31, G51593–98, G51918 Halmahera; G47043, G47045–48 Banda Sea; **Australia:** G36795, G40786, G40800–1, G41149, G60620, G60626, G60654 West; G27025, G27058, G27401–3, G27405–12, G27414–20, G27422, G27425–42, G27444–48, G29741–42, G30234, G30237–46, G31141, G31143–45, G35381, G40908, G46625, G48293, G48300, G48370, G49230, G56841, G56843, G58373, G62286, G62914–22, G63902 Great Barrier Reef; G27443, G31142, G58434 South-East; G27423, G30236, G33436, G33492, G33499, G33517, G49078–79, G63813 Coral Sea; **South China Sea:** G48349, G49077; **Japan:** G47789; **Taiwan:** G45843, G47592; **Philippines:** G32810, G49070–76; **Palau:** G56864, G56902; **Guam:** G49050; **Papua New Guinea:** G35652, G35829, G53054–60, G53078, G53258–61, G53554; G56691–95; **Louisiade Archipelago:** G33356; **Micronesia:** G41166–67 Yap; G37999 Chuuk; G41169, G41241, G62415–17, G62419–20, G62522–23, G63233–34 Pohnpei; **Solomon Is.:** G52590–92, G56696–700, G57093; **New Caledonia:** G40884, G58740; **Chesterfield Atoll:** G30233, G38165; **Marshall Is.:** G56197, G56213; **Kiribati:** G54797; **Fiji:** G40933, G40936, G40946; **Samoa:** G34719, G34725, G34729, G34876, G41210–29, G41285, G43469, G49060; **Niue:** G36109; **Cook Is.:** G35866, G36125, G53908; **Austral Is.:** G36123.

Species group: *humilis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 2.8–4.2 mm; inner diameter 1.0–1.6 mm; primary septa to ¾ R. ***Radial corallites:*** large; greater than three synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ¾ R. ***Coenosteum:*** same on and between radials: reticulo-costate; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Wolstenholme *et al.* 2003, Dai & Horng (2009), Turak & DeVantier (2011).

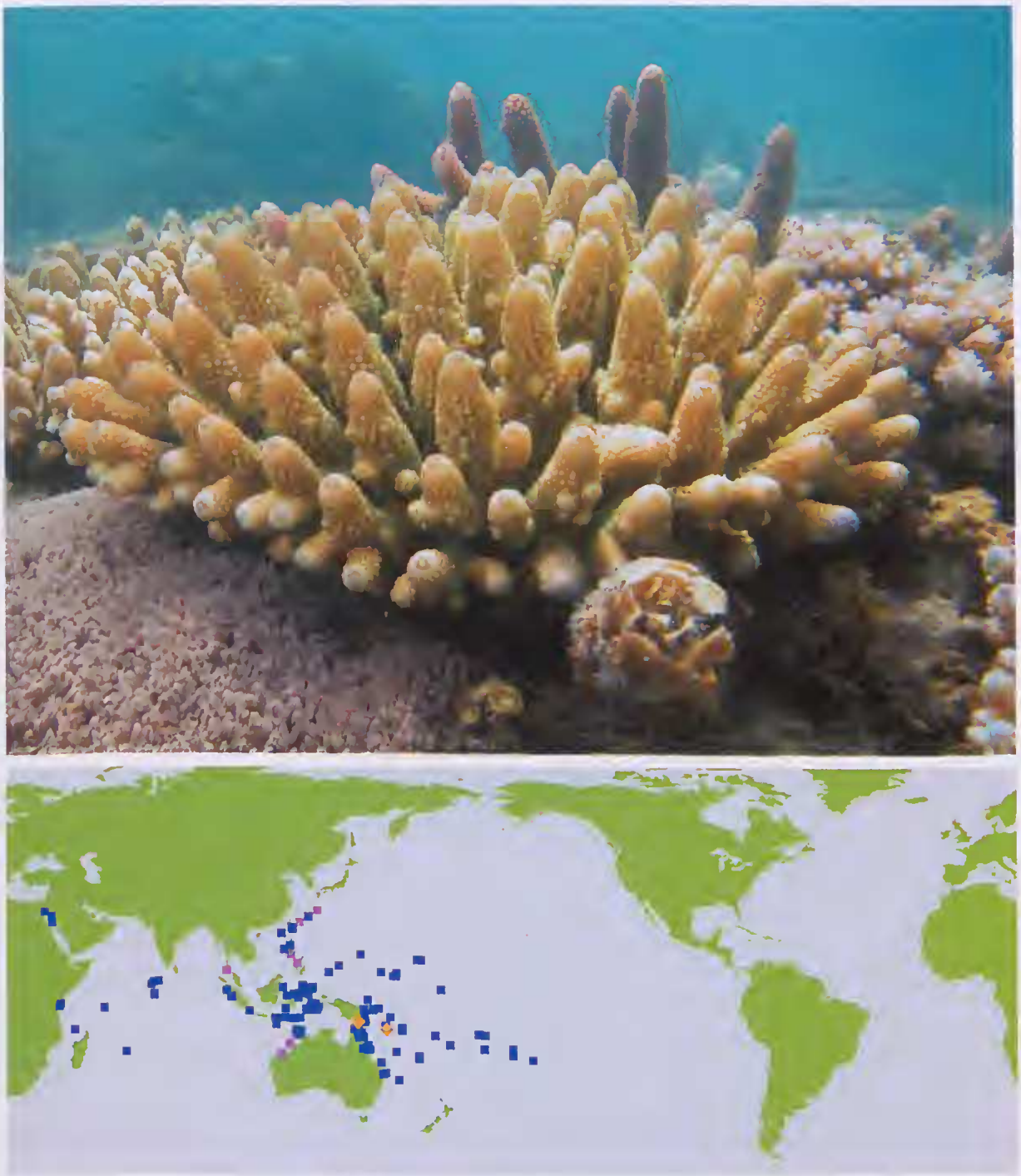


FIG. 34. *Acropora gemmifera*, Orpheus Is., North Queensland, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora glauca (Brook, 1893)

(Fig. 35)

Madrepora glauca Brook, 1893: 164, pl. 34 fig. D.

Type locality. Western Australia (holotype NHM).

MTQ Holdings. Oman: G40949; **Socotra:** G56950, G56965, G57408, G57414, G57466; **Kenya:** G58943; **Seychelles:** G59444; **Sri Lanka:** G55227, G56356–61; **Bangladesh:** G50568–70; **Thailand:** G32786, G35957, G56010–11, G56136, G56446–47, G56461–64, G56135–36, G59420, G61746; **Malaysia:** G57752, G59151; **Singapore:** G41007; Hong Kong: G61785, G61786; **Indonesia:** G49876 Sumatra; G46700–01, G53673 Bali; G61421 Irian Jaya; **Australia:** G40450, G40453, G47016, G48795–98, G48800, G48912, G60631, G60635, G60641, G60664, G61678–88, G61690, G64293, G64386, G64391, G64396–97 West; G59657 North; G28198, G50687–89, G57601, G57727, G58003, G58007, G58009, G58016, G58078, G58082, G59008–09 Great Barrier Reef; G14841, G14848–51, G28196–97, G28199–209, G28211–13, G28215–18, G30330, G30332, G30635, G33781, G36151–62, G36172, G36176, G41071, G41074–76, G41544, G47063–68, G47279–80, G56605, G57496–504, G57824–25, G58428, G58493, G58506, G58508, G58510–11, G58518, G58853–54, G58856–57, G58859–60, G60086, G60118–29, G60390, G60392–93, G60396–97, G60415, G61752, G63119, G65013–16 South-East; **Japan:** G36950, G62845–50, G62867–77; **Taiwan:** G45794–97, G45802–03, G45847, G47606, G47612 East; G27319 Norfolk Is; **Papua New Guinea:** G53419; **Samoa:** G41284; **Cook Is.:** G35698.

Species group: *lovelli*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 2.3–4.1 mm; inner diameter 0.9–1.3 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: rounded appressed; openings: oval-rounded; primary septa to ¾ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

FIG. 35. *Acropora glauca*, G62873, Kochi, Japan, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora globiceps (Dana, 1846)

(Fig. 36)

Madrepora globiceps Dana, 1846: 454, pl. 34 fig. 3.

Type locality. Tahiti (holotype NMNH SI).

MTQ Holdings. Australia: G60453 South-East; G39834 Coral Sea; **Niue:** G36079, G36105, G36107–08, G49020–24, G54512; **Cook Is.:** G35931, G35943–44, G36080–85, G36115, G36122, G49053 **French Polynesia:** G44041, G56681–85, G58767; **Society Is.:** G49061; **Pitcairn Is.:** G35748–49, G35753, G49037, G49040–42.

Species group: *humilis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, axial-dominated, reverse tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 3.0–4.5 mm; inner diameter 1.2–2.1 mm; primary septa to ½ R. ***Radial corallites:*** medium; greater than three synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: reticulo-costate; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000).

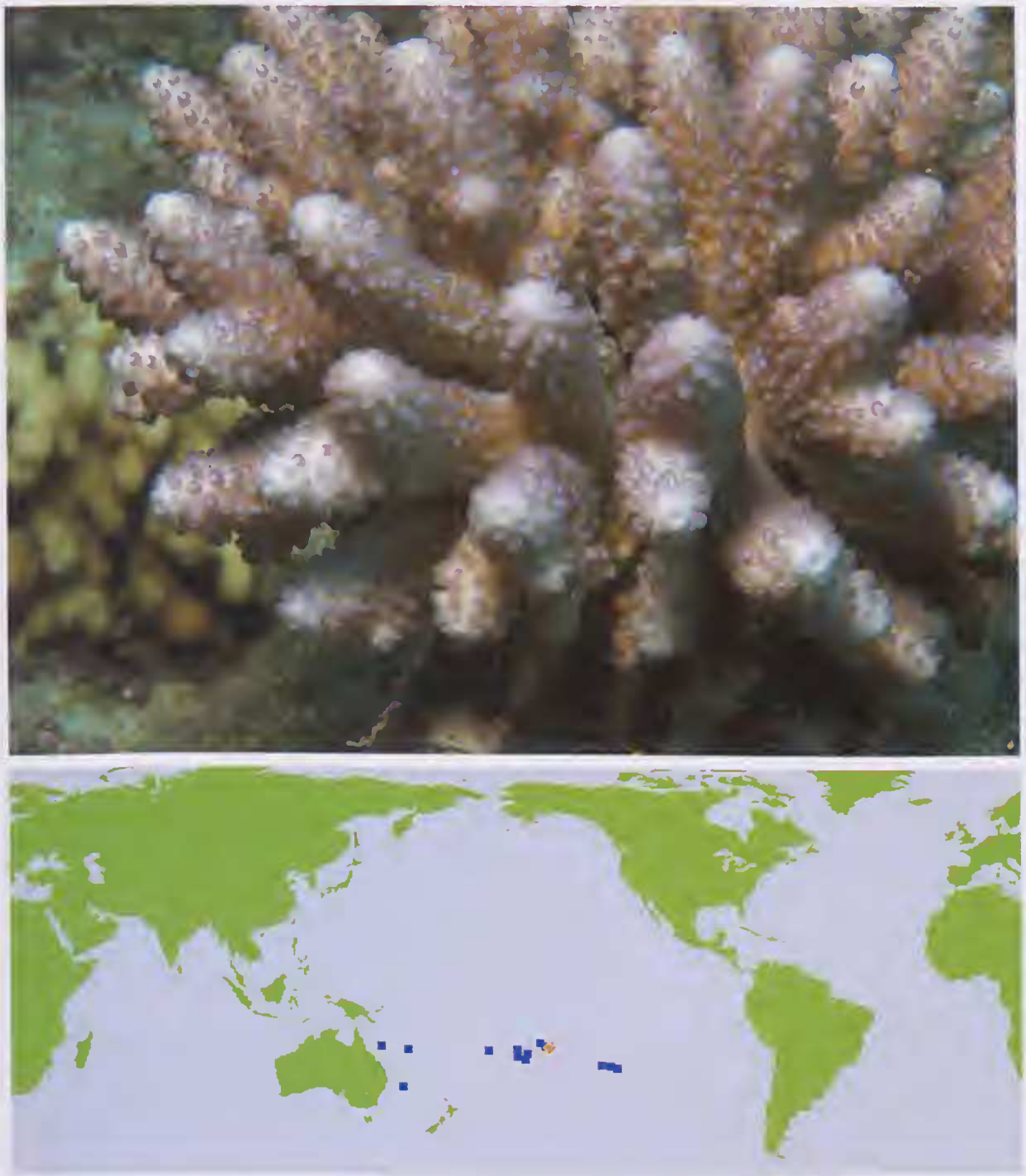


FIG. 36. *Acropora globiceps*, East Holmes Reef, Coral Sea, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora grandis (Brook, 1892)

(Fig. 37)

Madrepora grandis Brook, 1892: 457; 1893: 42, pl. 1 figs A–B.

Acropora dispar Nemenzo, 1967: 55, pl. 19 figs 3–4.

Type locality. Palm Island Australia (lectotype NHM).

MTQ Holdings. Maldives: G52001–02; **Thailand:** G36140, G36142–43, G55911–15, G56041, G56131, G56434–35, G56457; **Malaysia:** G53890 Sabah **Indonesia:** G53708 Bali; G35984 Maluku; G50896–97 Taka'bonerate; G51178 Ambon; G47445–48, G47857, G49382–83, G49385–86, G50811–12, G53704–07, G53709–10, G59091 Sulawesi; G53712 Molucca Sea; G53711 Halmahera; G46846–47, G46856–58 Banda Sea; G49384, G60750 Irian Jaya; **Australia:** G39768–69, G40790, G48732–38, G52671–72 West; G27038, G27055, G27079, G27620, G27802, G27805–6, G27840, G27843–46, G28342–44, G28346, G28348–49, G29111, G29318–22, G29324–25, G29329, G29331–32, G29717, G29719–20, G29726–27, G30066, G30070, G30198–99, G30201–2, G30462, G30464–71, G30473, G30990, G30992, G31037–41, G31152, G31154, G34236, G40976, G41000, G57596, G60506, G60511, G60592, G60594, G62913, G64643 Great Barrier Reef; G30067–69, G30463 South-East; G27807, G29386, G29718, G31153, G63806 Coral Sea; **Papua New Guinea:** G35823, G52777–80 North; G40790 Timor Sea; **Micronesia:** G40803, G62543, G62572, G62650 Pohnpei; **Solomon Is.:** G35593, G52120; **New Caledonia:** G34969, G35005, G40890, G58716, G61014, G61205; **Chesterfield Atoll:** G27848, G28339, G29328, G29385, G29387–92, G29721, G29724, G29728, G29774, G30278–80, G30993; **Marshall Is.:** G57293; **Kiribati:** G51222, G58796; **Fiji:** G40923.

Species group: *muricata*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.5–3 mm; inner diameter 0.8–1.7 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 0–¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

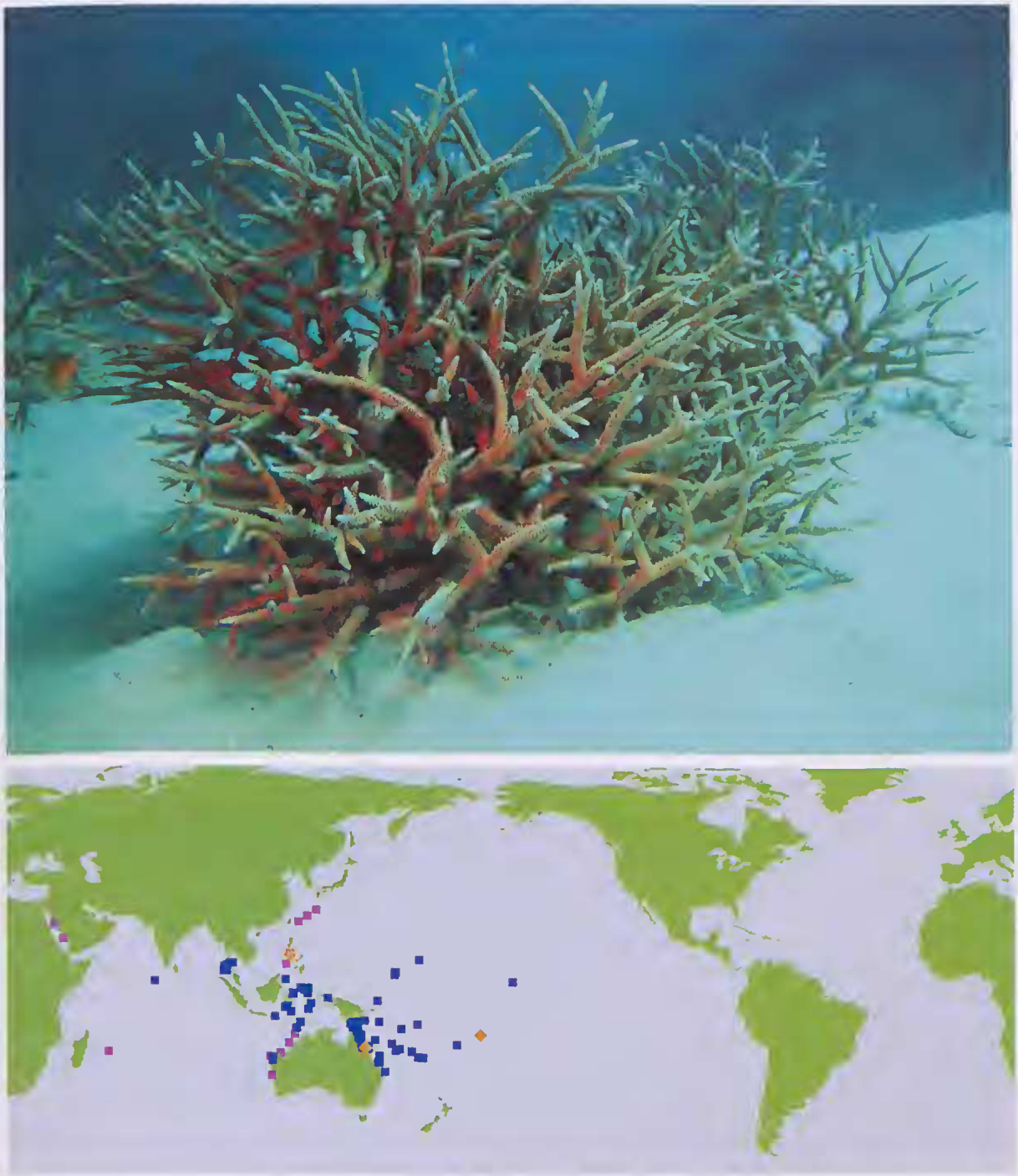


FIG. 37. *Acropora grandis*, G60592, Ribbon Reefs, Great Barrier Reef, Australia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora granulosa (Milne Edwards & Haime, 1860)

(Fig. 38)

Madrepora granulosa Milne Edwards & Haime, 1860: 156.

Madrepora clavigera Brook, 1892: 455; 1893: 183 pl. 9 figs A, A[1].

Type locality. Bourbon Islands (La Réunion) (holotype MNHN-SI).

MTQ Holdings. Maldives: G59826, G59993–95, G60297, G60299, G60314, G60346, G60365, G61599–600, G61613, G61616–17, G61635; **Chagos:** G51349–53, G51755; **Sri Lanka:** G56332; **Thailand:** G55927–28; **Indonesia:** G50411 Sumatra; G50450–51, G51901 Bali; G50418–20 Alor; G51912–13, G48247 Lombok; G51910–11, G51914–17, G54440 Tukangbesi Islands; G50794 Ambon; G50412–13, G50415–16, G51019, G51021, G51191–92, G63323 Flores; G50436, G50439–43, G50446–48, G51022, G51197–99 Kalimantan; G51193 Semau; G35526, G48241–44, G48272–74, G50422–29, G50431–35, G51194–96, G51902–04, G59658, G63339 Sulawesi; G51905–09 Halmahera; G48234–40, G48269–71 Banda Sea; G50417, G50452 West Timor; G60753, G60760, G60991 Irian Jaya; **Australia:** G27021, G29255, G29257–60, G29262–63, G29265, G30122, G30124–31, G30787–90, G30792–97, G31102–9, G31179–84, G56923–26, G57041–46, G59019, G62213–14, G62217, G62221, G62228, G62232–33, G62235–36, G62238, G62241, G62249–50, G62253, G62255–56, G62258–62, G62265–68, G62271–75, G63917–20, G64774 Great Barrier Reef; G30791, G30798, G58044, G60535, G60539, G64783 Coral Sea; **South China Sea:** G52170–77; **Philippines:** G41551; **Palau:** G63115; **Papua New Guinea:** G35616, G53079–94, G53411, G53496–99, G53715–16; **Micronesia:** G62529 Pohnpei; **Solomon Is.:** G52108–09, G58582; **New Caledonia:** G58707, G58736, G59168–69, G61201, G61204; **Marshall Is.:** G33132, G37973, G56140–41, G57208–18.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly plate. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.3–2.8 mm; inner diameter 0.4–0.9 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

FIG. 38. *Acropora granulosa,* Coral Sea, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora halmaherae Wallace & Wolstenholme, 1998

(Fig. 39)

Acropora halmaherae Wallace & Wolstenholme, 1998: 258, fig. 54.

Type locality. Halmahera, Indonesia.

MTQ Holdings. HOLOTYPE G51513, PARATYPES G51509–12 Indonesia; **Indonesia:** G63172 Halmahera; G61285, G63114, G57110 Irian Jaya; **Papua New Guinea:** G53312–15; **Micronesia:** G59272, G59302–05, G59643, G59649, G62574–77, G62604, G62692–93, G62820 Pohnpei; **Marshall Is.:** G57232.

Species group: *horrida*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.3–2.2 mm; inner diameter 0.6–0.9 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: costate; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000).

FIG. 39. *Acropora halmaherae*, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora hemprichii (Ehrenberg, 1834)

(Fig. 40)

Heteropora hemprichii Ehrenberg, 1834: 109.

Type locality. Red Sea (syntypes MNB).

MTQ Holdings. Red Sea: G54682, G54871, G55244, G62977, G62983, G62985 Saudi Arabia; G58868 Yemen.

Species group: *rudis*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 2.7–4.1 mm; inner diameter 0.8–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** large; two synapticular rings; one size or graded; inner wall developed; shape: rounded tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Wallace (1999), Veron (2000).

FIG. 40. *Acropora hemprichii,* Red Sea (photo: L. Devantier). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora hoeksemai Wallace, 1997

(Fig. 41)

Acropora hoeksemai Wallace, 1997: 40, figs 11, 14D.

Type locality. Bunaken I., Sulawesi, Indonesia.

MTQ Holdings. HOLOTYPE G48984; PARATYPES G35967, G48476–79, G48481–86, G48982–83, G48985–87, G48989, G48991, G48993 Indonesia; **Maldives:** G60319; **Thailand:** G54839, G56000–01, G59320, G59398, G59400, G59412; **Malaysia**: G54995, G57655, G57683, G57686, G57689, G57761, G59149; **Indonesia:** G59198 Java; G49004, G49358 Bali; G50976–80, G51069 Nusa Tenggara; G48483–86, G48992, G49000, G49355–56 Alor; G35961, G35967 Maluku; G48476–79, G48991, G49357 Flores; G48985–90, G48994, G49002 Kalimantan; G48983, G48993, G49719, G53766, G53937–41, G53945 Sulawesi; G53765, G53767, G53942 Molucca Sea; G52410, G53943–44 Halmahera; G48982 Banda Sea; G48481–82 West Timor; G60730, G60733, G61052 Irian Jaya; **Australia:** G60504 North; **Papua New Guinea:** G35827.

Species group: *divaricata.*

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.0–2.6 mm; inner diameter 0.6–1.1 mm; primary septa to ¾ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: dimidiate; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: forked.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

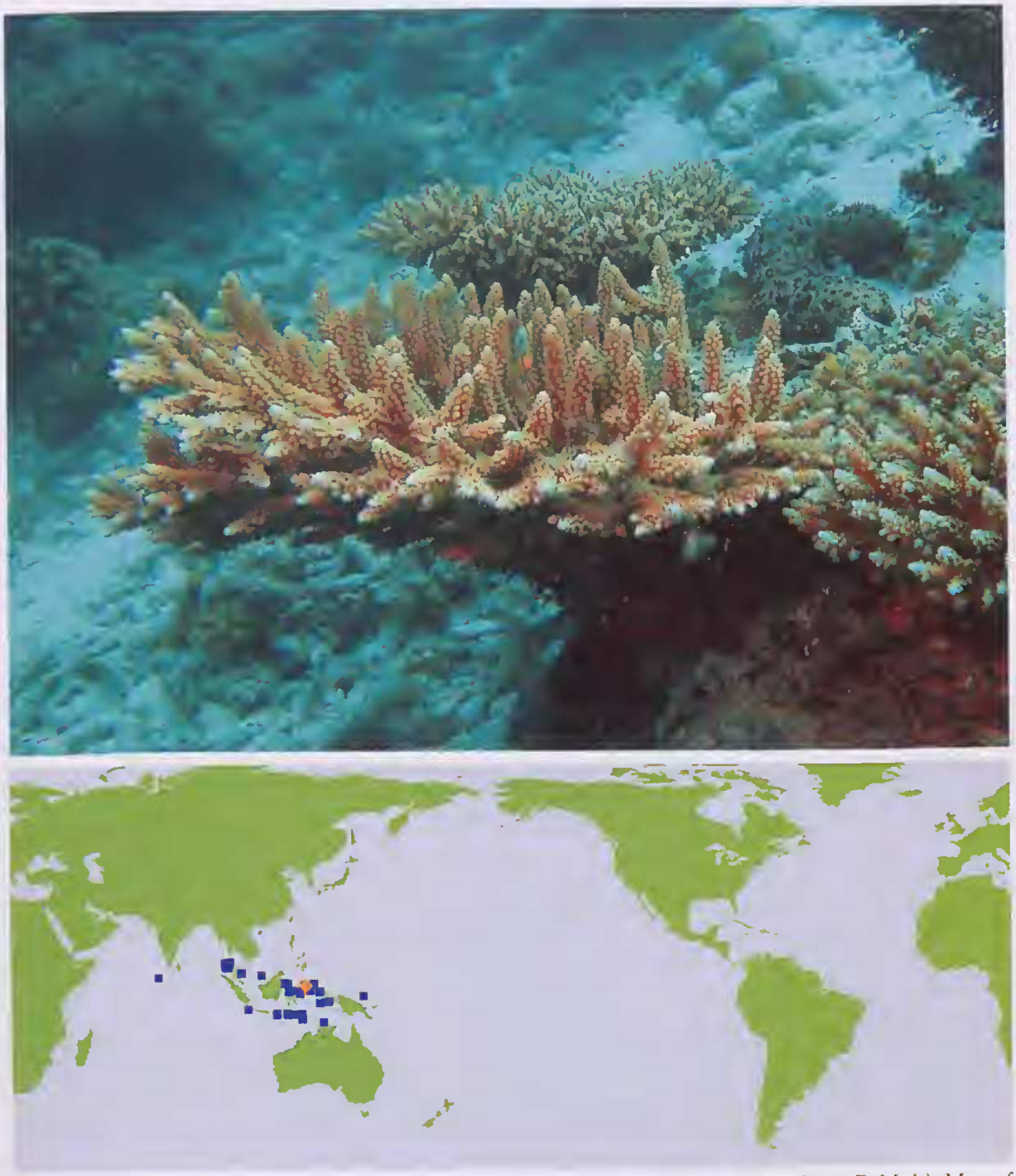


FIG. 41. *Acropora hoeksemai*, G60319, Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora horrida (Dana, 1846)

(Fig. 42)

Madrepora horrida Dana, 1846: 472 pl. 39 figs 2–2a.
Madrepora angulata Quelch, 1886: 160.
Madrepora inermis Brook, 1891: 462; 1893: 194 pl. 29 figs A–B.
Acropora sekiseiensis Veron, 1990: 107, figs 11–12.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. G32476 HOLOTYPE of *A. sekiseiensis* Japan; **Red Sea:** G55260 Saudi Arabia; **Mauritius:** G59125, G59344–45; **Maldives:** G51998, G52087, G59827, G59939–45, G60269, G60325; **Chagos:** G51869–70; **Thailand:** G32802, G55961, G56038–40, G56440, G56051; **Malaysia:** G57662–63, G57679 mainland and islands; G53921 Sabah; **Indonesia:** G49527, G49532, G59725 Bali; G50973–74 Nusa Tenggara; G49502, G49512–19 Alor; G48176–78 Lombok; G50739 Seribu Is; G49509, G50972 Flores; G49500–01, G49522–26, G53865–66, G56622, G59059 Kalimantan; G49511 Semau; G48166–75, G49520–21, G49528–31, G50818, G51971–72, G53666, G53859–64, G55520, G56510, G56617, G56619, G56623, G57087–89, G58633 Sulawesi; G51985, G53665 Molucca Sea; G51973–84 Halmahera; G49503 Banda Sea; G49510, G60780–84, G61001 Irian Jaya; **Australia:** G27035, G27076, G28737, G28739, G28741–49, G28751, G28753–55, G29243, G29245–48, G29250–52, G29254, G29469–72, G29474–76, G29856, G29858–60, G29863, G56935, G57539, G57733, G58142–51, G58177–81, G58265, G58290–93, G58302–3, G58374, G58385, G58599–600, G60512, G60601, G63111, G63896, G64764 Great Barrier Reef; G29477, G29864, G33187, G33195, G60134–36, G62810 South-East; G33750 Coral Sea; G29466 Admiralty Is.; **Japan:** G47769; **Philippines:** G32823, G41709; **Palau:** G56865, G56868, G56894, G60214; **Papua New Guinea:** G35628, G35913–14, G35917, G52805–10, G53251; **Micronesia:** G59292, G62489, G62497–02, G62546, G62589, G62655, G62670 Pohnpei; **Solomon Is.:** G58991, G59001; **Chesterfield Atoll:** G29861; **Marshall Is.:** G56222, G57219–24, G57317–19, G57332–34; **Kiribati:** G51215, G51217; **Austral Is.:** G32858.

Species group: *horrida*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.4–2.4 mm; inner diameter 0.6–1.5 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

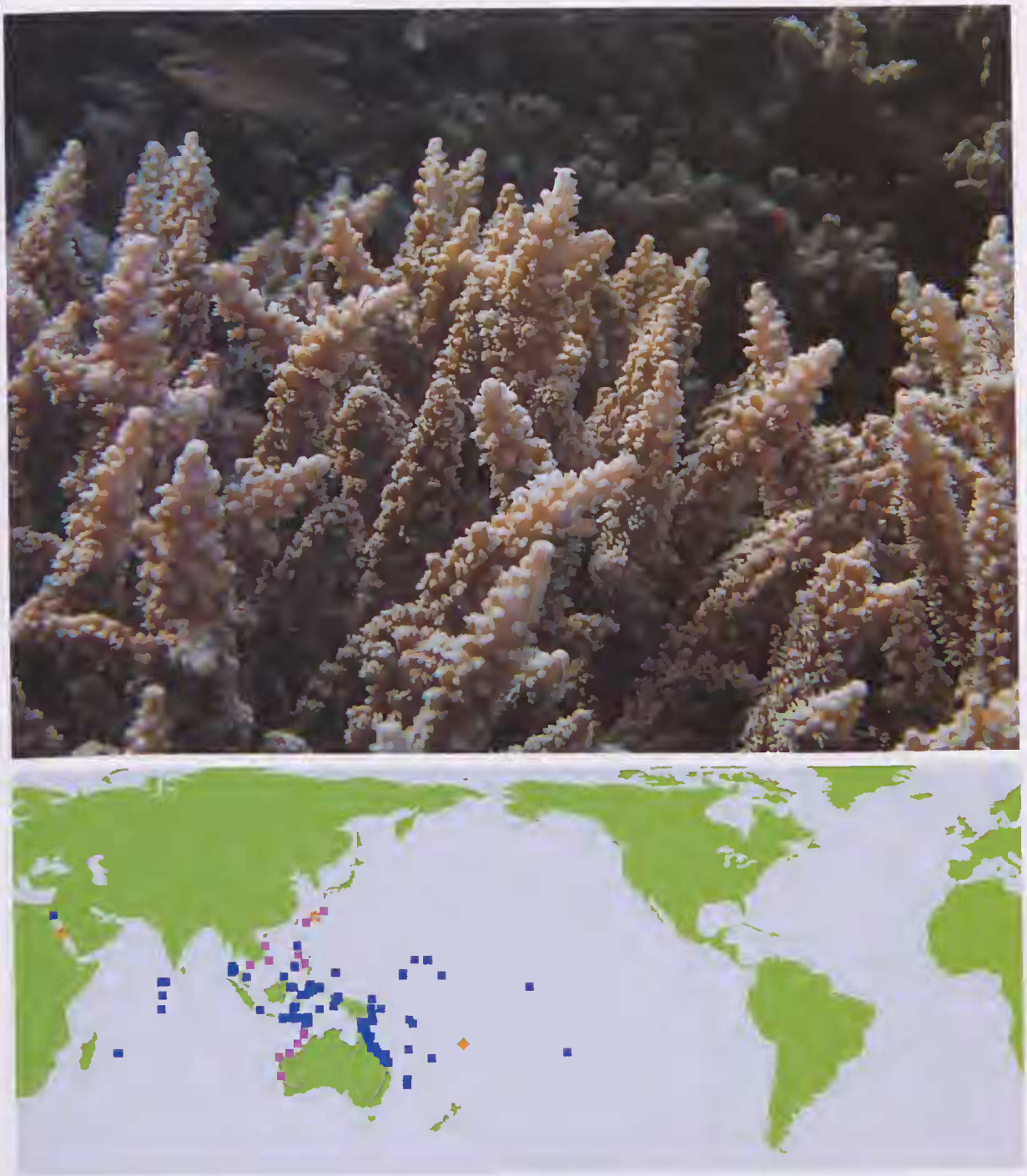


FIG. 42. *Acropora horrida*, G59827, Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora humilis (Dana, 1846)

(Fig. 43)

Madrepora humilis Dana, 1846: 483, pl. 31 fig.4; pl. 41 fig. 4.
Madrepora spectabilis Brook, 1892: 462; 1893: 141, pl. 16 fig. B.
Madrepora fruticosa Brook, 1892: 457; 1893: 138, pl. 18 fig. A.
Madrepora guppyi Brook, 1892: 458; 1893: 158, pl. 23 fig. D.
Madrepora obscura Brook, 1893: 129, pl. 32 fig. A.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Red Sea: G49311, G54789, G57769 Egypt; G49328, G55261 Saudi Arabia; G49312 Sudan; **Kenya:** G35561, G54931, G58926–32; **Mayotte:** G63276, G63385; **Seychelles:** G51851, G59460, G59482, G59486; **Mauritius:** G51825, G51845, G54529, G54899, G54911; **Maldives:** G51995, G52089–90, G53021, G59809, G59923, G60339; **Chagos:** G51363; **Sri Lanka:** G55770; **Thailand:** G59410; **Malaysia:** G52632 mainland and islands; G40194, G49208 Sabah; **Singapore:** G41011; **Indonesia:** G47160, G47167, G48590–95, G48625 Sumatra; G32836, G59193–94 Java; G49101, G49112–14 Bali; G48605–06, G48628 Alor; G47458 Lombok; G35966 Maluku; G50895 Taka'bonerate; G49096 Seribu Is; G36179, G36211, G47038, G50820–21 Ambon; G48596–02, G48626 Flores; G39796, G49100, G49109–10 Kalimantan; G48627 Semau; G34169–72, G35408–09, G47318–31, G49102–06, G49108, G51578, G51608–15, G56666–70 Sulawesi; G51625–26 Molucca Sea; G51579, G51616–24, G51628 Halmahera; G47039–42, G51627 Banda Sea; G48603–04 West Timor; **Australia:** G36790, G38391, G61585, G64390 West; G49209, G58988 North; G27051, G27075, G29140–43, G29145–50, G29456, G29585, G29587–89, G29591–97, G29599–600, G29682–87, G29689, G29691–98, G29700–07, G30026–36, G30038, G30095–96, G30247, G30282–83, G30285–87, G30289–90, G30295–302, G30304–15, G33001–02, G35018, G35379–80, G46039, G47643, G48320, G49228–29, G49319–22, G51113, G53653–54, G55479–80, G56369, G56823, G58909, G61767, G62278, G63904–12, G63921, G63934–35, G64693, G64759 Great Barrier Reef; G47053–54, G58418 South-East; G29144, G29151, G29688, G29690, G30039, G30284, G30291, G33437–40, G33443–44, G33446–47, G33449–57, G33473, G33476–83, G33485, G33488, G33491, G33508, G33751, G33754–55, G49080–95, G57616 Coral Sea; **South China Sea:** G48352, G49097, G52155; **Japan:** G36839, G36909, G38018, G38039, G47783, G62851; **Taiwan:** G35500, G45905, G45936, G56661–65; **Philippines:** G45861, G49098; **Palau:** G60202, G61863; **Guam:** G40731, G49047–49, G49051–52, G53631, G54745; **Papua New Guinea:** G52817–30, G52946–48, G56671–75; **Micronesia:** G40698, G41164, G41173 Yap; G36614–15 Chuuk; G62418, G62468, G62526–27 Pohnpei; G62776 Kosrae; **Solomon Is.:** G52596, G56676–80; **New Caledonia:** G35006, G49043, G49207; **Chesterfield Atoll:** G30293, G58920; **Marshall Is.:** G33119, G33121, G37478–79, G37555, G37964, G56199; **Kiribati:** G54793–94; **Fiji:** G34741, G34743, G34770, G34809; **Samoa:** G33229–35, G34717, G34727, G34731, G34736–37, G34762–63, G34773, G34882, G41204–09, G43462; **Niue:** G30097, G36073–74, G49018–19, G54513; **Hawaii:** G27084; **Line Is.:** G59694; **Cook Is.:** G35862–65, G35945, G36117, G49059 **Tuamotu Archipelago:** G32860; **Austral Is.:** G30098; **Pitcairn Is.:** G35752, G35754–55, G49038, G49099.

Species group: *humilis*.

Description. *Colony outline:* determinate, predominantly corymbose. *Branches:* tertiary branching order absent; length: 25–50 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. *Axial corallites:* greater than three synapticular rings; not porous; outer diameter 3–9 mm; inner diameter 1.0–1.8 mm; primary septa to ¾ R. *Radial corallites:* large; greater than three synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: dimidiate; primary septa to 1 R; *Coenosteum:* same on and between radials: reticulo-costate; spinule shape: elaborate.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Wolstenholme *et al.* 2003, Dai & Horng (2009), Turak & DeVantier (2011).

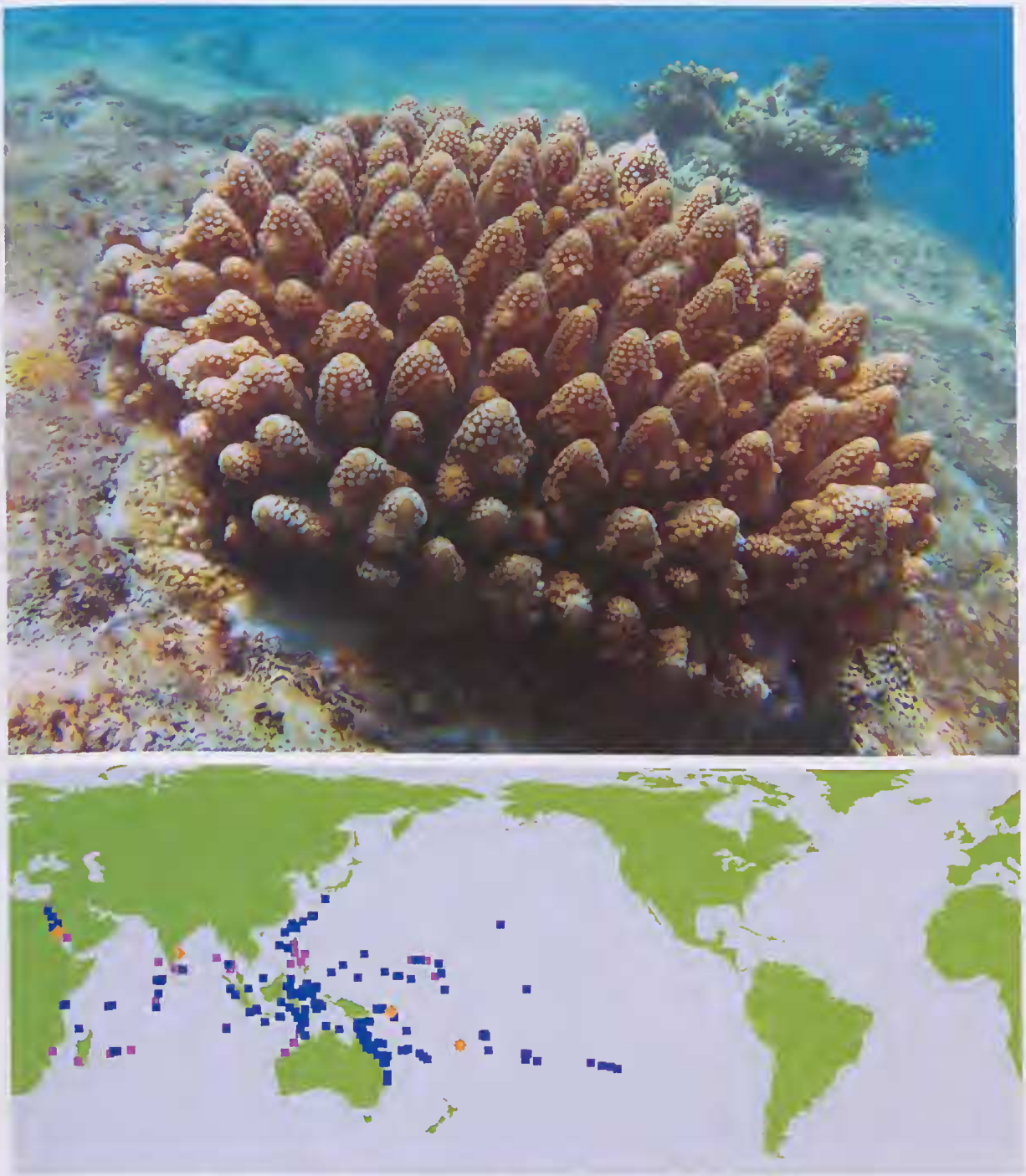


FIG. 43. *Acropora humilis*, Seychelles, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora hyacinthus (Dana, 1846)

(Fig. 44)

Madrepora hyacinthus Dana, 1846: 444, pl. 32 fig. 2.
Madrepora surculosa Dana, 1846: 445, pl. 32 fig. 4–4a, 5.
Madrepora surculosa var. *turbinata* Dana, 1846: 445.
Madrepora patella Studer, 1878: 526, pl. 1 fig. 3.
Madrepora turbinata Dana, 1846: pp; Verrill, 1902: 242.
Madrepora conferta Quelch, 1886: 164, pl. 10 fig. 3.
Madrepora pectinata Brook, 1892: 460; 1893: 95, pl. 27 figs D–E.
Madrepora recumbens Brook, 1892: 461; 1893: 106, pl. 27 fig. F.
Madrepora sinensis Brook, 1893: 114, pl. 33 fig. C.

Type locality. Fiji (holotype NMNH-Sl).

MTQ Holdings. Red Sea: G54865, G57765, G57767, G57776 Egypt; G53549 Sudan; G53547–48, G54748 Yemen; **Kenya:** G54924–25; **Seychelles:** G49210, G59496; **La Réunion:** G33210; **Mauritius:** G51815–16, G51873, G54470, G54904, G54913; **Maldives:** G59819–20, G59924–25, G60360; **Sri Lanka:** G55772–73, G56347; **Thailand:** G32791, G36141, G55972–73, G55992–93, G56121, G56126, G56137, G56443, G56068–69, G59334; **Malaysia:** G52612–13, G57669, G59144, G59148 mainland and islands; G40021, G53917 Sabah; **Singapore:** G41018, G41022, G45887; **Indonesia:** G41545–50, G48508–14, G50027 Sumatra; G32832, G59197 Java; G46695–97, G50031–33, G50057–60, G53800–01, G59722 Bali; G50988–91, G50995–1002 Nusa Tenggara; G48523–30, G50029–30, G50552, G50619 Alor; G53828–29 Lomblen; G47449, G48042, G48122–23, G48158 Lombok; G35971 Maluku; G49836–49 Riau; G53821–27, G53830–35 Tukangbesi Islands; G50993 Taka'bonerate; G50062, G50085 Seribu Is; G36214 Ambon; G48515–19, G50028 Flores; G50044–56, G50994, G51166 Kalimantan; G48521 Semau; G35501–05, G47297–307, G47973, G50026, G50034–43, G50086, G50177, G50613, G50618, G50763–65, G50992, G53802 Sulawesi; G53803–06, G53818–20 Molucca Sea; G53807–17 Halmahera; G46906–13, G47296, G50151, G58899 Banda Sea; G48520, G48522 West Timor; G36036 Irian Jaya; **Australia:** G36047–48, G38395, G39762, G39764, G39770–71, G40836–37, G40842, G48739–48, G50083–84, G51167, G51541–42, G52453–58, G60632, G60661, G60665, G61091, G61661, G64395 West; G39777–78, G51262, G58989, G59656 North; G27056, G27096, G27585, G27587–88, G27591–93, G27595, G27597, G276001, G27603, G27606, G27610, G27612–14, G27616, G27618–19, G27768, G28682–92, G28811, G29114–19, G29504, G32747–52, G32754–72, G32774–75, G35022, G37360–61, G37371–72, G37399–400, G38142, G41308, G43499–550, G43574, G46057, G46428, G47621, G48297, G54327–66, G57525, G57533, G57730, G58401, G59023–27, G62230, G63126, G64728–30 Great Barrier Reef; G14827, G14837, G14839, G27589–90, G27594, G27596, G27598–99, G27602, G27604, G27608–9, G27615, G27617, G34194, G47281, G57489–92, G58433, G60063–72, G60074, G60076, G60078, G60080, G60082, G60084, G60137–39, G60450–51, G62821, G64961–68 South-East; G27586, G28681, G35882–83, G39840 Coral Sea; **South China Sea:** G37564, G37566–67, G50063–81, G51157–61; **Japan:** G35487, G36821–23, G36831–33, G36914, G38012, G38015, G38027, G47773–75, G62296, G62302, G62305, G62310, G62327, G62337, G62339, G62996; **Taiwan:** G35496, G43842–43, G45798, G45812, G46533, G47581, G47600; **Philippines:** G32814, G41573, G41706, G41708, G41714, G45854–55, G50082, G52335–37; **Palau:** G36226, G36232, G56630–31, G61865; **Papua New Guinea:** G35634, G35642–43, G35650, G53237–50, G53460, G53593, G53594; **Louisiade Archipelago:** G33355, G35361; **Micronesia:** G40712–15, G41172 Yap; G36610 Chuuk; G40749, G40818, G41240, G62402, G62462, G62486–87, G62619 Pohnpei; G62766–69 Kosrae; **Solomon Is.:** G52603–05; **New Caledonia:** G33091, G33096, G33105, G34960, G34973, G34996–98, G58738, G61032; **Chesterfield Atoll:** G38251; **Marshall Is.:** G33139, G56145–46, G56203, G57239, G57240; **Kiribati:** G54953, G54980–82; **Tuvalu:** G37560; **Samoa:** G38990, G41296, G43467, G43481; **Niue:** G36021, G36023, G36025, G50581–86; **Cook Is.:** G32853–54, G35722, G35729, G35732, G35737, G35845, G35948, G36061, G36068, G36071–72, G36124, G46690, G53916; **French Polynesia:** G44044, G58651; **Tahiti:** G27104, G33080, G33083–84, G53583–85, G54696; **Tuamotu Archipelago:** G32867; **Austral Is.:** G30102, G36017 **Pitcairn Is.:** G54610–12.

Species group: *hyacinthus*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1–2 mm; inner diameter 0.4–1.1 mm; primary septa to ¾ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: laterally flattened.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Pichon *et al.* 2010, Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

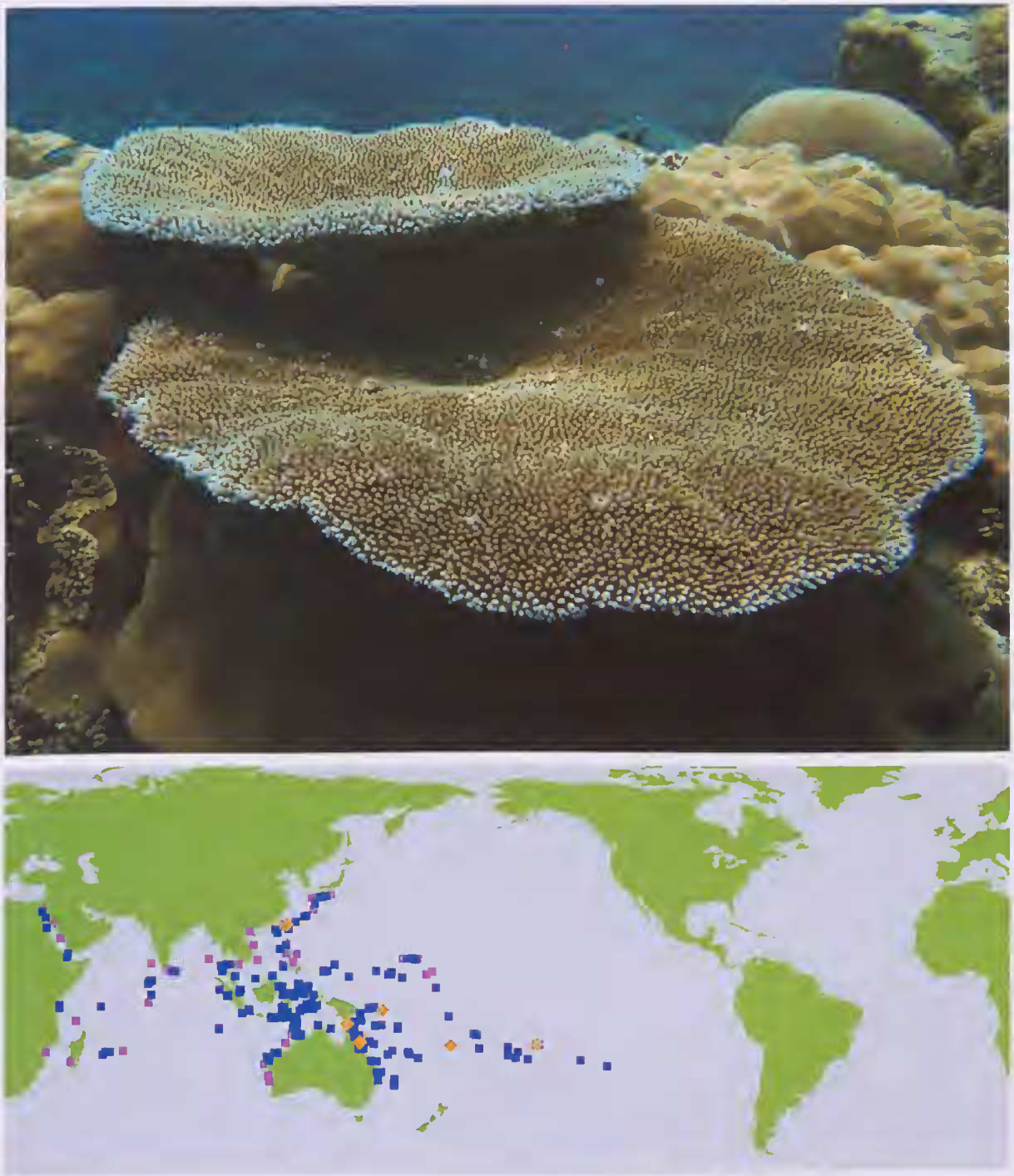


FIG. 44. *Acropora hyacinthus*, G60360, Ari Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora indonesia Wallace, 1997

(Fig. 45)

Acropora indonesia Wallace, 1997: 35, fig. 7.

Type locality. Bangka Island, Sulawesi, Indonesia.

MTQ Holdings. HOLOTYPE G47901 Indonesia, paratypes: see below; **Thailand:** G36146–49, G56115–19, G56052–57, G59329, G59409, G59424; **Malaysia:** G59153; **Indonesia:**, G53659 Sumatra; G49633, G53761, G59719 Bali; G48698, PARATYPE G48699, G59084 Alor; G54542 Tukangbesi Islands; G49011 Seribu Is; PARATYPE G48693 Ambon; G53660 Flores; G48940, PARATYPE G48941, G48944 Kalimantan; G48697 Semau; G35532, PARATYPES G47894–99, G47900, PARATYPE G47902, G47903–07, G48545, G48692, PARATYPE G48939, PARATYPE G48942, G48943, G49012–13, PARATYPE G49014, G49535, G50014, G50493, G54220–23 Sulawesi; G54228 Molucca Sea; G54224–27 Halmahera; PARATYPE G47891, G47892, PARATYPE G47893, G48544, G58900, G58947 Banda Sea; PARATYPE G48695, G48696, G61057 Irian Jaya.

Species group: *hyacinthus*

Description. ***Colony outline:*** determinate, predominantly arborescent-table. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.5–2.2 mm; inner diameter 0.6–1.0 mm; primary septa to 1 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: elongate lip; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: blunt irregular.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

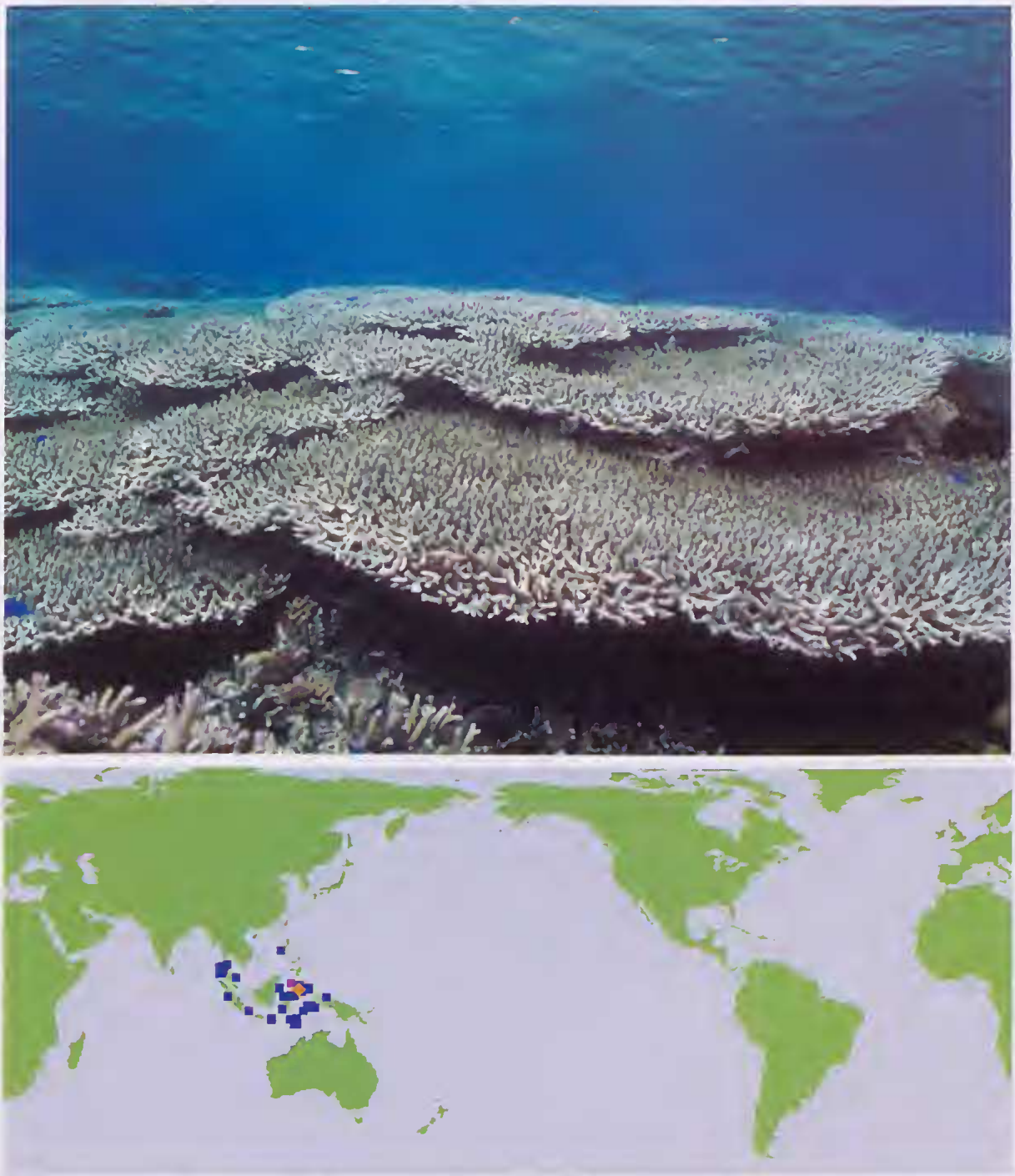


FIG. 45. *Acropora indonesia,* G49633 Pemuteran , N. Bali, Indonesia, 1995 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora intermedia (Brook, 1891)

(Fig. 46)

Madrepora intermedia Brook, 1891: 463; 1893: 31, pl. 1 fig. C.
Madrepora repens Rehberg, 1892: 36, pl. 4 fig. 8.
Acropora eminens von Marenzeller, 1906: 30, pl. 24 fig. 78.
Acropora vanderhorsti Hoffmeister, 1925: 70, pl. 18 fig. 2.

Type locality. Maldives (lectotype NHM).

MTQ Holdings. Red Sea: G54874–75, G54879, G54948 Yemen; **Socotra:** G56952, G56967, G56969; **Comoros:** G55094; **Mayotte:** G63198, G63342; **Seychelles:** G47957, G51857–58, G59446, G59461, G59473, G59498, G59505, G59508, G59510; **Aldabra:** G41073; **Mauritius:** G39787, G51830–36, G54472, G54909; **Maldives:** G59817–18, G59926–28; **Sri Lanka:** G55767, G55776, G56348–49; **Thailand:** G32783, G36144, G36150, G53658, G55935–42, G56077–79, G59418; **Malaysia:** G52619–20, G57678, G57684, G57762, G59145; **Singapore:** G41023; **Indonesia:** G48568–69, G48685–86, G49149–53 Sumatra; G32839, G32844, G59205 Java; G46702, G49156–57, G49164 Bali; G50909 Nusa Tenggara; G48575–81, G48690–91, G49155, G59081 Alor; G51693–94 Lomblen; G47432–33, G47842 Lombok; G49815–18 Riau; G51691–92 Tukangbesi Islands; G43816 Taka'bonerate; G50721–27 Seribu Is; G47028 Ambon; G48570–73, G48687–88, G49154 Flores; G49161–63, G49294, G49349, G50910 Kalimantan; G35519–21, G35813–14, G47418–31, G48157, G48161, G49158–60, G50808–09, G51678–81, G53689, G56507 Sulawesi; G51686–90, G53768–69 Molucca Sea; G51682–85, G52417, G59102 Halmahera; G47001, G47026–27, G47131, G47417 Banda Sea; G48574, G48689 West Timor; G36043 Irian Jaya; **Australia:** G36053–54, G38363, G38370, G38392, G40152, G48712–16, G52668, G60628, G60633, G60643, G61689 West; G48105–10, G48252, G48254, G51266–68, G58976, G58982–83 North; G27026, G27621–23, G27997–8003, G28233, G28236, G28238, G29139, G29413–17, G29419–20, G30071, G30197, G31052–54, G34226, G35026, G37397, G39882, G40907, G47291–92, G50847, G51090–91, G57517, G57535, G57729, G57732, G57736, G58067, G58116, G58182, G58908, G64674, G64716 Great Barrier Reef; G28234–35, G28237, G31050, G64998–5000 South-East; G33512, G33520 Coral Sea; **South China Sea:** G37568, G48348, G52130–33, G52220–23, G52267; **Japan:** G36849, G38049, G38054, G47757, G48380, G62856–57; **Taiwan:** G43838, G43846, G47580, G47599; **Philippines:** G41948; **Palau:** G36233, G36531, G56644, G56858, G63116; **Guam:** G53652; **Papua New Guinea:** G52759–76, G52811–12, G53561 **Micronesia:** G40702–04, G40726, G40775 Yap; G36616, G36618–19 Chuuk; G38005, G40819, G40829–30, G62429–31, G62503, G62545, G62668, Pohnpei; G41086, G62733, G62770 Kosrae; **Solomon Is.:** G58596; **New Caledonia:** G33095, G34947, G41111, G58705, G58725, G58732, G59173; **Kiribati:** G33110, G54799, G54807, G54959, G54966; **Tuvalu:** G37556–57; **Samoa:** G34722, G34871, G36636, G41293, G43463, G43465, G43496, G43498, G54269, G56026–27, G56036; **Niue:** G35836; **Cook Is.:** G59700–02; **Tahiti:** G33085.

Species group: *robusta*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.5–4.0 mm; inner diameter 0.8–1.5 mm; primary septa to ¾ R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009).

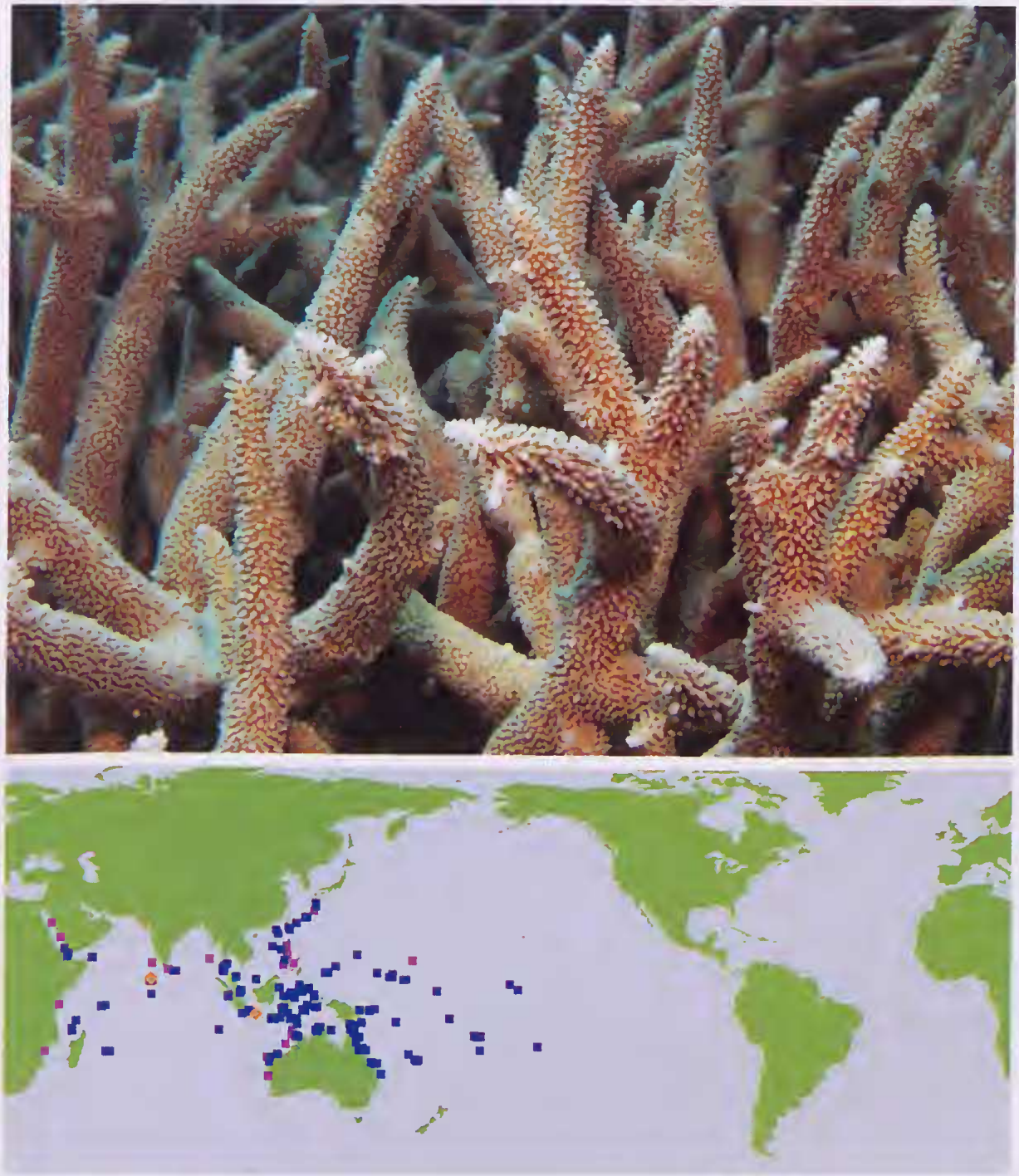


FIG. 46. *Acropora intermedia*, Coral Sea, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora jacquelineae Wallace, 1994

(Fig. 47)

Acropora jacquelineae Wallace, 1994: 970, figs 9, 10.

Type locality. Huon Gulf, Papua New Guinea.

MTQ Holdings. HOLOTYPE G35631, PARATYPE G39734, Papua New Guinea; **Indonesia:** G48488 Flores; G48810–20, G50553–54, G51778, G55411–14 Sulawesi; G51739–41, G52411 Halmahera; G60739–42 Irian Jaya; **Papua New Guinea**: G52978–98, G53441, G59108–09, G59705; **Micronesia:** G62515 Pohnpei; **Solomon Is.:** G57915, G58590.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly plate. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 0.7–1.2 mm; inner diameter 0.1–0.5 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa absent. ***Coenosteum:*** same on and between radials: open spinules; spinule shape: blunt irregular.

Further literature. Wallace (1997, 1999), Wallace & Wolstenholme (1998), Veron (2000).

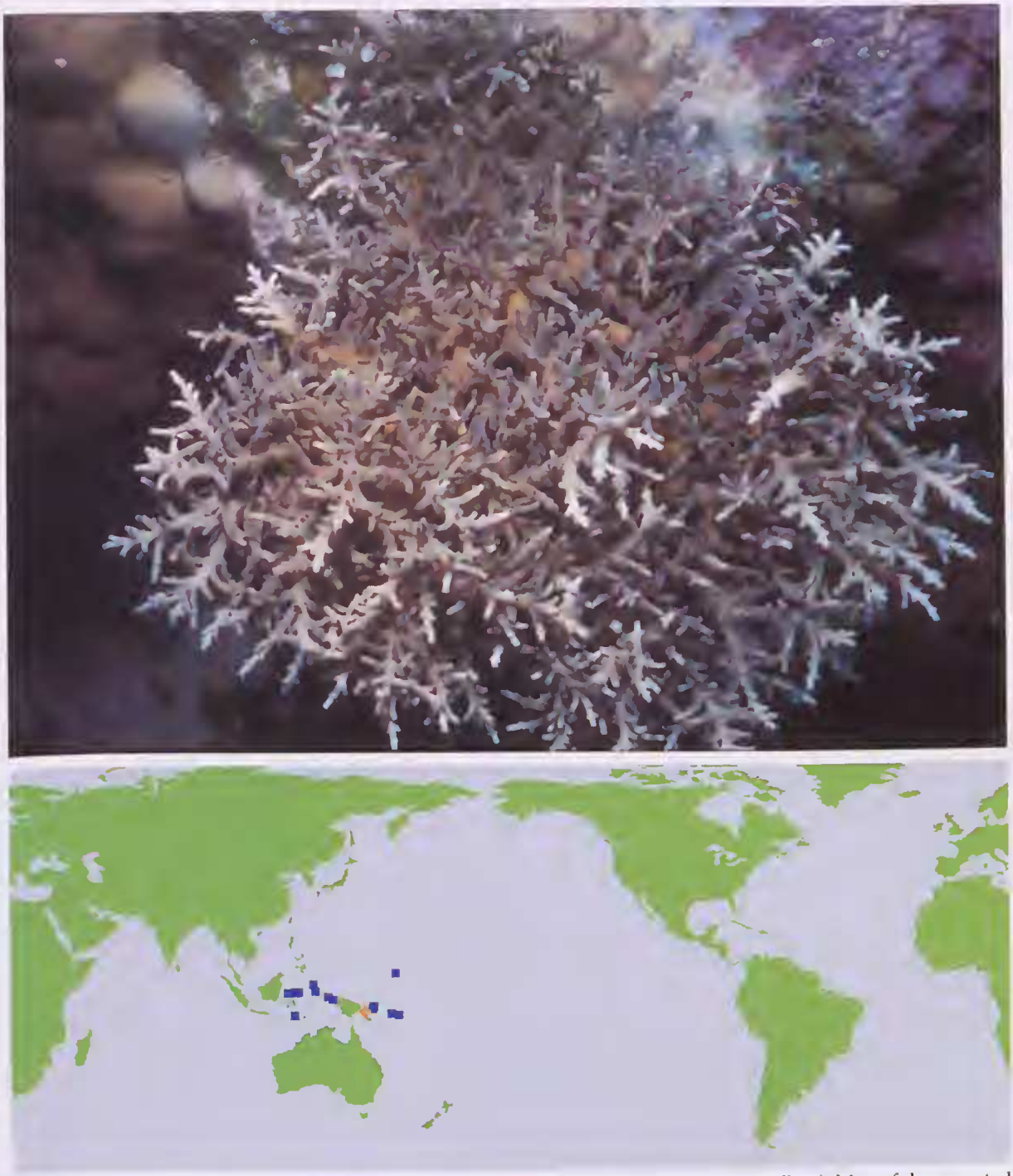


FIG. 47. *Acropora jacquelineae*, G52983 Kimbe Bay, Papua New Guinea, 1997 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora japonica Veron, 2000

(Fig. 48)

Acropora japonica Veron, 2000, vol. 1: 330; 2002: 53–55, figs 102–105.

Type locality. Honshu, Japan (IGPS-108946).

MTQ Holdings. G55861 PARALECTOTYPE. **Japan:** G62838–39, G62939.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 5.0–9.9 mm, axial-dominated, tapering; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 1.5–1.6 mm; inner diameter 0.6–0.9 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: single point.

Taxonomic note. Veron (2002) notes that this species is very similar to *A. digitifera* and may be a high-latitude form. Specimen IGPS-108946 at the Institute of Geology and Paleontology, Tohoku University, Japan, illustrated and described by Veron (2002: 53-55, figs 102, 103) as the 'holotype' (see discussion on p. 4 of the present work) is herein designated the lectotype of Acropora japonica, on the basis of Article 74.7 of the Fourth edition of the Code (ICZN 1999). Specimen MTQ-G55861, mentioned in Veron (2002: 55) is similarly designated a paralectotype.

Further literature: Nomura & Mezaki (2005)

FIG. 48. *Acropora japonica*, G62839, Kochi, Japan, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora kimbeensis Wallace, 1999

(Fig. 49)

Acropora kimbeensis Wallace, 1999: 146, pl. 19.

Type locality. Kimbe Bay, West New Britain.

MTQ Holdings. HOLOTYPE G53452, PARATYPES G53443, G53445, G53447–51 Papua New Guinea; **Indonesia:** G55407–09, G57006, G59382 Sulawesi; G58948 Banda Sea; G61300 Irian Jaya; **Papua New Guinea:** G53446; **Micronesia:** G59275, G62560, G62608 Pohnpei; **Marshall Is.:** G56194, G56212, G57262–64.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 0.8–1.6 mm; inner diameter 0.4–0.6 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: laterally flattened.

Further literature. Veron (2000), Turak & DeVantier (2011).

FIG. 49. *Acropora kimbeensis,* G62430, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora kirstyae Veron & Wallace, 1984

(Fig. 50)

Acropora kirstyae Veron & Wallace, 1984: 247, figs 593, 596–597.

Type locality. Falcon I., Palm Islands E. Australia.

MTQ Holdings. HOLOTYPE G55077 eastern Australia; **Indonesia:** G48956–57, G56508, G56621, G58632 Sulawesi; G63167–68 Halmahera; G60776–79, G60794 Irian Jaya; G57100–02 Irian Jaya; **Australia:** G30072–82, G51298, G58183–97, G58294–96, G58304–14 Great Barrier Reef; **Papua New Guinea:** G54550; **Micronesia:** G63125 Pohnpei; **Solomon Is.:** G58577; **New Caledonia:** G35610, G40888, G40892, G40895, G58695.

Species group: *horrida*.

Description. *Colony outline:* indeterminate, predominantly arborescent. *Branches:* tertiary branching order present; length: >100 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. *Axial corallites:* two synapticular rings; porous; outer diameter 0.9–1.4 mm; inner diameter 0.2–0.8 mm; primary septa to 2/3 R. *Radial corallites:* small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. *Coenosteum:* same on and between radials: costate; spinule shape: blunt irregular.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

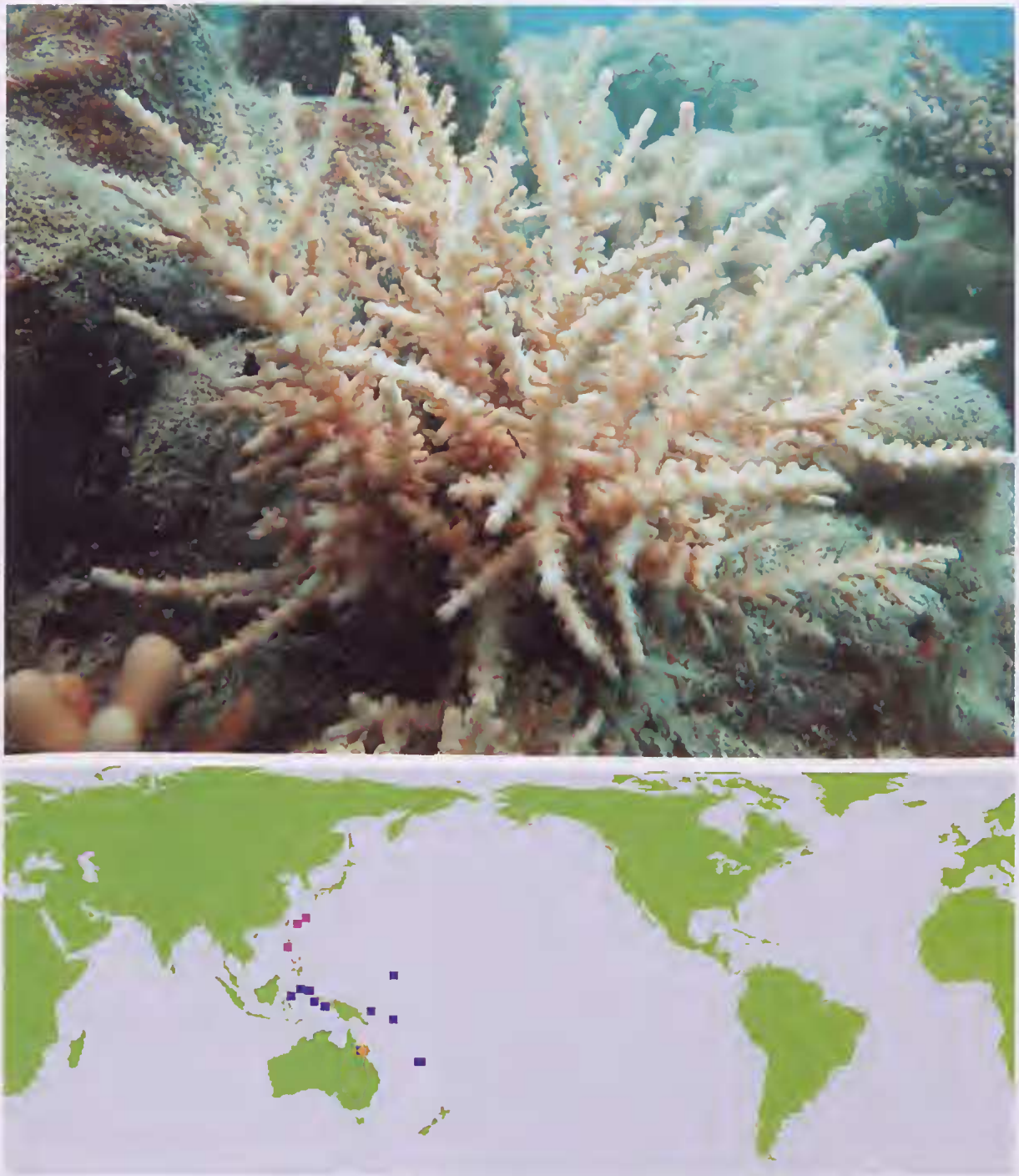


FIG. 50. *Acropora kirstyae*, G61013, New Caledonia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora kosurini Wallace, 1994

(Fig. 51)

Acropora kosurini Wallace, 1994: 984, fig. 27.

Type locality. Koh Surin, Mergui Archipelago, West Thailand.

MTQ Holdings. HOLOTYPE G37295, PARATYPES G37294, G37296–97, G37299–301West Thailand; **Kenya:** G59592–94; **Maldives:** G61602–05; **Thailand:** G52639–41, G59311–12, G59315, G59319; **Indonesia:** G49725–26 Sumatra; **Marshall Is.:** G37963.

Species group: *divaricata*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.3–3.7 mm; inner diameter 0.6–0.8 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: dimidiate; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: open spinules; spinule shape: forked.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

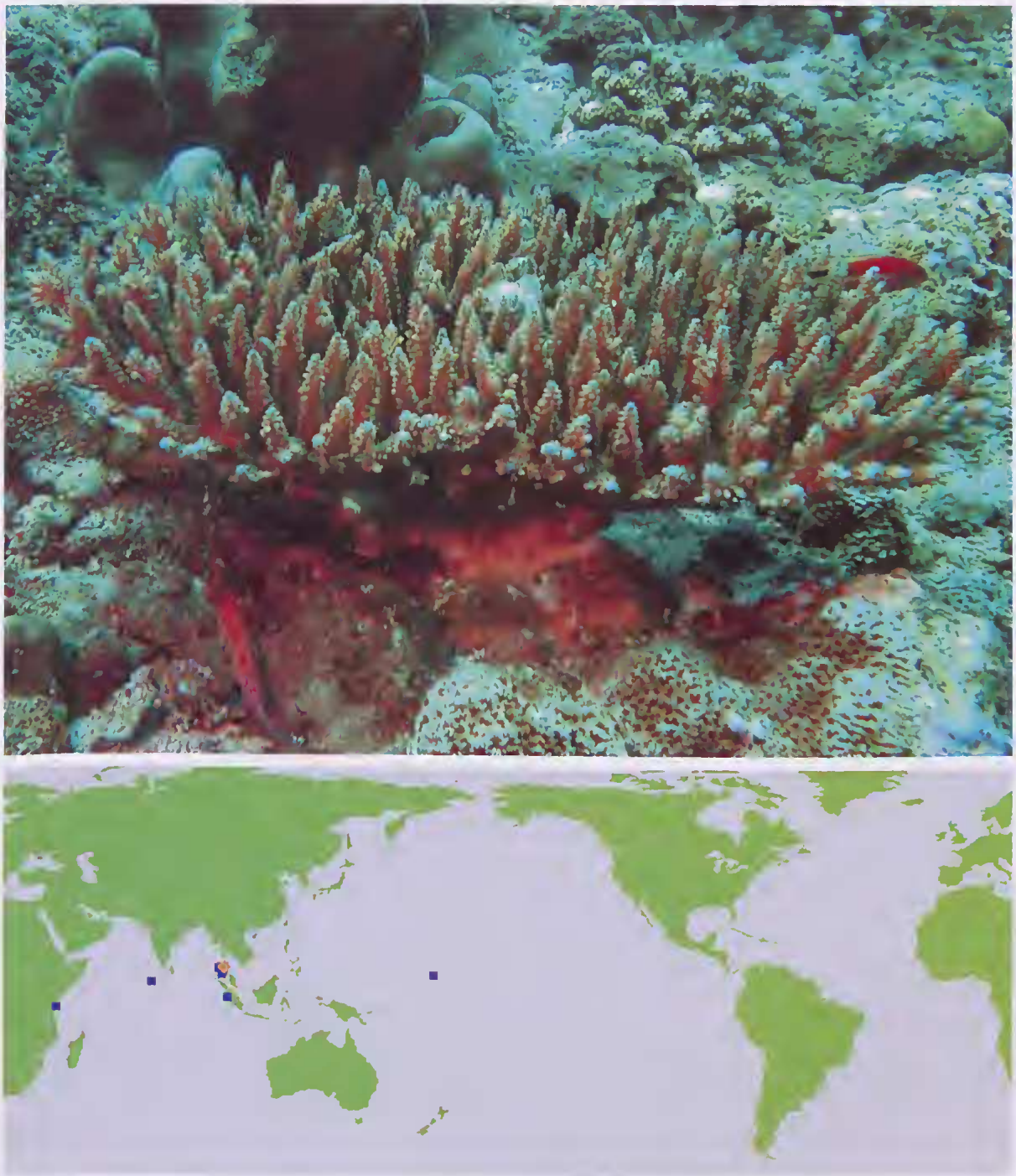


FIG. 51. *Acropora kosurini*, Lakshadweep Is., India, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora latistella (Brook, 1892)

(Fig. 52)

Madrepora latistella Brook, 1892: 459; 1893: 112, pl. 9 fig. B.
Madrepora patula Brook, 1892: 460; 1893: 111, pl. 9 fig. E.
Acropora loricata Nemenzo, 1967: 113, pl. 32 figs 1–2.
Acropora imperfecta Nemenzo, 1971: 153, pl. 4 fig. 3.

Type locality. Port Denison, Australia (lectotype NHM).

MTQ Holdings. Red Sea: G54826 Yemen; **Kenya:** G54918–19; **South Africa:** G41041–42; **Mayotte:** G63283–89, G63348–52, G63418, G63438; **Seychelles:** G47936; **La Réunion:** G54782–83; **Mauritius:** G39782, G51819–20, G54469, G54534–35, G54912; **Maldives:** G52091, G59778, G59959–61, G60318, G61618; **Chagos:** G51355–57, G51362, G51440–43, G51749, G51751–53; **Thailand:** G52643; **Malaysia:** G57665, G57757 mainland and islands; G40197 Sabah; **Singapore:** G45892; **Indonesia:** G50139 Sumatra; G50771, G59200 Java; G49909, G54070 Bali; G58648 Nusa Tenggara; G49893–98, G49959, G50144, G50605, G53852, G58639–40, G58642–45 Alor; G54090 Lomblen; G48039, G48152, G50138 Lombok; G49819–20 Riau; G54091–92, G54424 Tukangbesi Islands; G43815, G50943, G50944 Taka'bonerate; G50735–37 Seribu Is; G36217, G48142, G50770 Ambon; G49884–90, G50140–41, G50942 Flores; G49905–08, G50147–48, G50604 Kalimantan; G50142–43 Semau; G34189, G35514, G47974, G48143–51, G49881–83, G49899–904, G49910, G50137, G50145–46, G50614, G50769, G54071–76, G54130, G54230, G54453, G58647 Sulawesi; G54077, G54089 Molucca Sea; G54078–88 Halmahera; G48139–41, G49880 Banda Sea; G49891–92 West Timor; G36038 Irian Jaya; **Australia:** G36055, G40455, G40457, G47006–07, G48706–11, G48905–11, G51545, G60619, G60656, G61093–94, G61680 West; G48131–34, G48136, G48492, G51271 North; G27641, G27643–46, G27648, G27663–68, G27670, G27672, G27746–47, G27749–50, G27752, G27754–57, G27759, G27762, G27765–66, G27769, G27773, G27960–61, G27963–65, G27969–71, G28789, G28791–94, G28796–97, G28799–804, G28806–07, G29921–25, G29928–31, G29933, G30355, G30594, G30598, G31159, G32209–11, G32402–04, G33153, G33155–57, G34229, G43323, G43580, G48318, G55485, G57514, G57544, G57549, G57595, G57982, G58002, G58014, G58039, G58112, G58402, G58527, G59010–11, G59015, G59029–32, G60505, G60546, G62816–18, G64613–14, G64706, G64784 Great Barrier Reef; G27647, G28798, G28809–10, G30595–97, G30599–603, G30691–705, G30707–08, G30745, G35802–03, G41078–79, G47284, G60062, G65001–04 South-East; G27751, G27758, G27761, G27774, G27955–56, G27959, G27962, G27968, G28790, G30706, G33154, G35871, G35873–76, G39841, G57614, G57627, G57634, G60561 Coral Sea; **Japan:** G38023, G47741–43, G47807, G62298; **Taiwan:** G35541, G45906–12, G45923–25, G45928–29, G47610; **Palau:** G55007, G56633; **Papua New Guinea:** G52927–31, G53555–56, G53592, G53610–12, G53721, G61737; **Micronesia:** G37994 Chuuk; G40814, G62475–77, G62479, G62538, G62559, G62562 Pohnpei; G62759 Kosrae; **Solomon Is.:** G52588; **New Caledonia:** G34950, G40887, G58704, G61045; Vanuatu: G35600; **Chesterfield Atoll:** G27748, G27753, G27760, G27763, G27771–72, G27957–58, G27967, G28795, G29926, G29932, G38148, G58916; **Marshall Is.:** G37960, G47223–24, G56326, G56173–74; **Kiribati:** G54961, G54970–72, G59676; **Tuvalu:** G35605; **Fiji:** G35599; **Samoa:** G54268, G56031; **Niue:** G36028, G36103, G54668; **Cook Is.:** G35693, G35725, G35856, G53914, G55543; **French Polynesia:** G39730; **Tuamotu Archipelago:** G32863; **Austral Is.:** G35870; **Pitcairn Is.:** G35741–43, G54617–19, G63120.

Species group: *latistella*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.4–3.0 mm; inner diameter 0.6–0.9 mm; primary septa to ¾ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

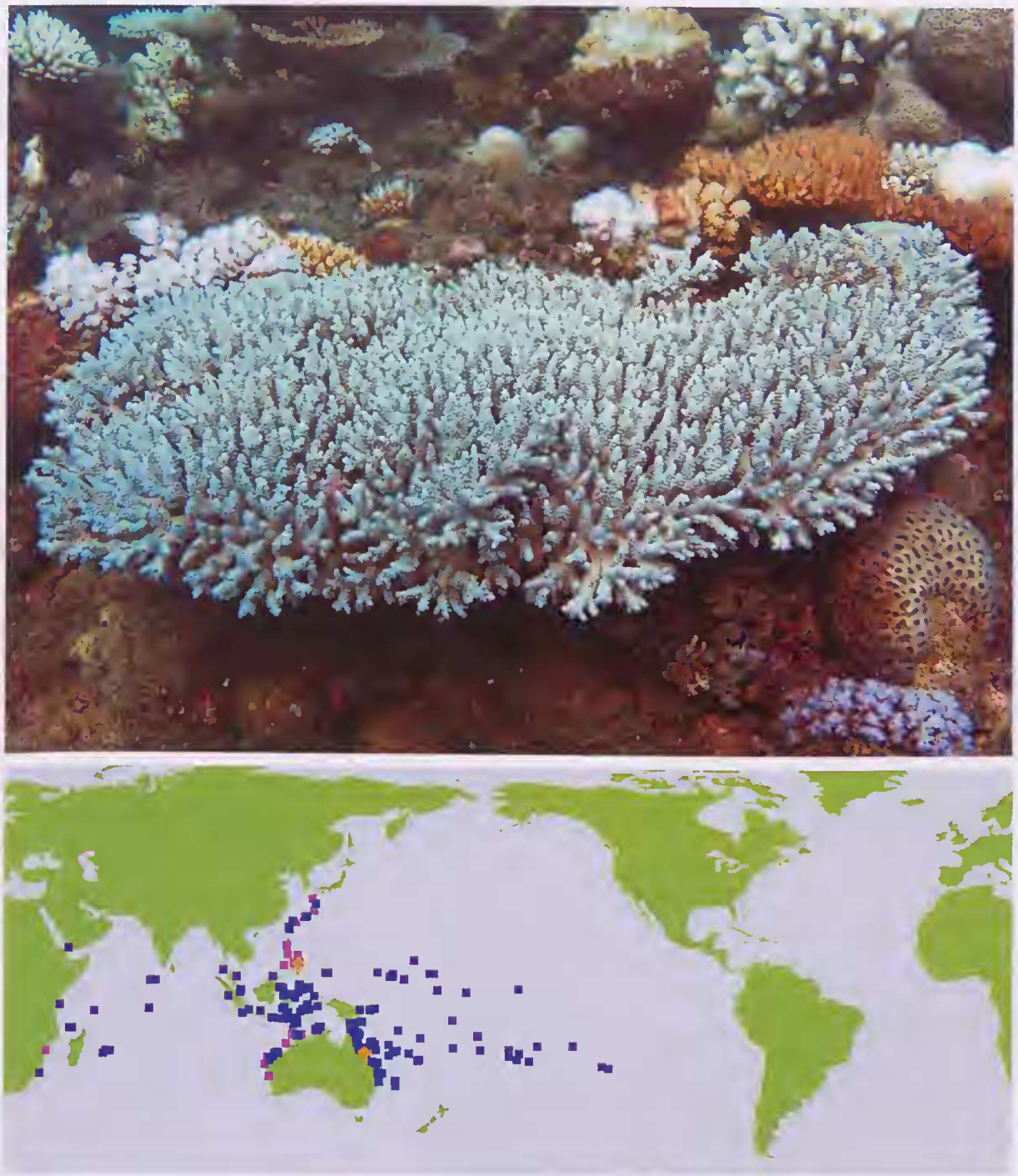


FIG. 52. *Acropora latistella*, G63418, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora listeri (Brook, 1893)

(Fig. 53)

Madrepora listeri Brook, 1893: 53, pl. 30 figs C–D.
Acropora diomedeae Vaughan, 1906: 69, pl. 7 figs 1, 1a pl. 8 figs 2–3.

Type locality. Tongatabu (Tonga) (holotype NHM).

MTQ Holdings. Red Sea: G55250–52, G58869–70 Saudi Arabia; **Mauritius:** G39786, G54461; **Chagos:** G51760; **Thailand:** G56012–17, G59413, G59414; **Indonesia:** G58688 Sumatra; G54546 Tukangbesi Islands; G53871 Kalimantan; G35527, G49345–46, G58861 Sulawesi; G51744–45, G53683 Halmahera; G47003 Banda Sea; **Australia:** G64307 West; G30983, G34154, G39942, G54830, G57521, G58906 Great Barrier Reef; G27792, G27795, G27801, G58463, G62957 South-East; G27794 Coral Sea; **South China Sea:** G52289; **Taiwan:** G35493–94, G47595; **Philippines:** G32819, G45851; **Palau:** G56903; **Guam:** G36601–02; **Papua New Guinea:** G53413; **Louisiade Archipelago:** G54408; **Micronesia:** G40725, G40761 Yap; G62547 Pohnpei; **Solomon Is.:** G52121; **New Caledonia:** G34961, G34999, G58702; **Chesterfield Atoll:** G27793, G27796–98, G31150, G38617, G38621–23; **Marshall Is.:** G33201; **Samoa:** G34718, G34720, G34761, G36629, G36643, G41272; **Line Is.:** G59695, G59699; **French Polynesia:** G53573–74, G58629; **Tahiti:** G54698; **Pitcairn Is.:** G35757.

Species group: *robusta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.3–4.0 mm; inner diameter 0.6–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Taxonomic note. In Wallace (1999), *A. diomedeae* was accidentally included as a synonym of A. nasuta as well as *A. listeri*. After re-examination of the type specimen (by C. Wallace.), this species is removed from the synonymy of *A. nasuta* and confirmed as a synonym of *A. listeri*.

Further literature: Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009).

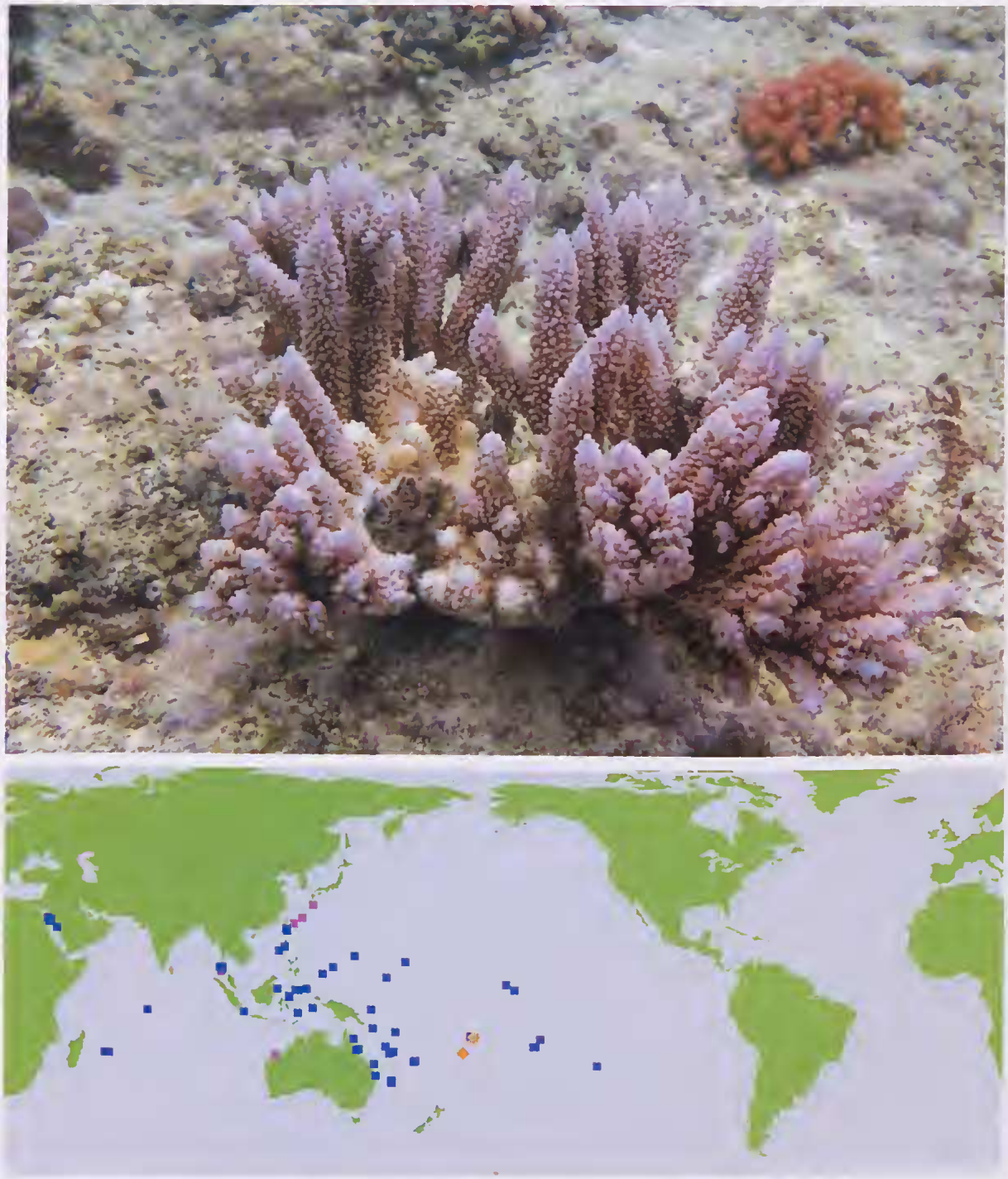


FIG. 53. *Acropora listeri*, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora loisetteae Wallace, 1994

(Fig. 54)

Acropora loisetteae Wallace, 1994: 965, fig. 6.

Type locality. Scott Reef, Western Australia.

MTQ Holdings. HOLOTYPE G46442, PARATYPE G46443 Western Australia; **Thailand:** G61753; **Malaysia:** G53920, G55024 Sabah; **Indonesia:** G59093 Sulawesi; G61422 Irian Jaya; **Papua New Guinea**: G59110–12; **Marshall Is.:** G57125–38.

Species group: *selago*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 2.5–4.9 mm, radial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.3–2.8 mm; inner diameter 1.2–1.6 mm; primary septa to 1 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: costate; spinule shape: no spinules.

Further literature. Wallace (1999), Veron (2000).

FIG. 54. *Acropora loisetteae*, Indonesia (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora lokani Wallace, 1994

(Fig. 55)

Acropora lokani Wallace, 1994: 975 fig. 16.

Type locality. West New Britain, Papua New Guinea.

MTQ Holdings. HOLOTYPE G39884 Papua New Guinea; PARATYPES G40018, G41129 Sabah, Malaysia; **Indonesia:** G48267 Lombok; G60762 Irian Jaya; **Papua New Guinea:** G53509–17; **Micronesia:** G59268–69, G62516, G62586, G62685 Pohnpei; **Solomon Is.:** G57916.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.2–2.6 mm; inner diameter 0.6–0.9 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 1 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000).

FIG. 55. *Acropora lokani*, G62516, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora longicyathus (Milne Edwards & Haime, 1860)

(Fig. 56)

Madrepora longicyathus Milne Edwards & Haime, 1860: 148.

Madrepora syringodes Brook, 1892: 463; 1893: 177, pl. 33 fig. E.

Acropora navini Veron, 2000, vol. 1: 431; 2002: 68–69, figs 136–139.

Type locality. unknown (holotype MNHN).

MTQ Holdings. G55820 HOLOTYPE of *A. navini* from Milne Bay, Papua New Guinea; **Sri Lanka:** G56331; **Thailand:** G32797, G55896–99; **Malaysia:** G54996, G57661, G57666, G57688 mainland and islands; G53926–28 Sabah; **Indonesia:** G51208–09 Seribu Is; G50788 Ambon; G47691–96, G47728–29, G50789, G51666, G55416, G59051, G63336 Sulawesi; G52414–15 Halmahera; **Australia:** G27034, G27047, G27067, G28711, G28713, G28716–17, G28719–24, G28971–76, G28978–79, G28981–85, G29454, G29459–62, G29464–65, G29485–89, G29491, G29493–95, G29509, G29822, G29825–26, G29828–29, G29832–33, G29835, G30335, G30337–39, G30341–45, G30347, G30710, G30713–16, G30719, G30721–22, G30724, G30746–60, G31147–49, G31164, G32462–63, G34244, G35127–28, G37303, G37366, G37396, G37406, G56930–31, G57020, G57513, G57523, G57527–29, G57881, G57989–90, G57994–95, G58052, G58059, G58063, G58315, G58603–04, G60598, G60602 Great Barrier Reef; G29453, G29455, G29458, G29821, G29823, G29830–31, G30340, G30709, G30711–12, G30717–18, G30720, G30723, G33524, G34246, G39843, G57629, G57639, G60567 Coral Sea; **South China Sea:** G37562; **Japan:** G36824, G36830, G38034, G47801–02; **Palau:** G36236, G36534–35, G56883–87; **Papua New Guinea:** G39737, G53324–43, G53442, G53566, G53713–14, G54663; **Micronesia:** G37997 Chuuk; G40751, G59266, G59273, G62467, G62517–21, G62563, G62606 Pohnpei; **Solomon Is.:** G52111, G58567, G59006; **New Caledonia:** G40881, G58694, G61015, G61024, G61025; **Chesterfield Atoll:** G29452, G29457, G29492, G29824, G29827, G29834, G34148, G38151; **Marshall Is.:** G56154, G57331; **Fiji:** G34739; **Samoa:** G35607.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.5–2.8 mm; inner diameter 0.5–1.3 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. *Acropora navini* is placed in synonymy with *A. longicyathus* because the holotype falls within the range of variability of the specimen holdings above: in particular, with G39737, G57529 and G57994, all from the Great Barrier Reef.

Further literature. Veron & Wallace (1984), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Turak & DeVantier (2011).

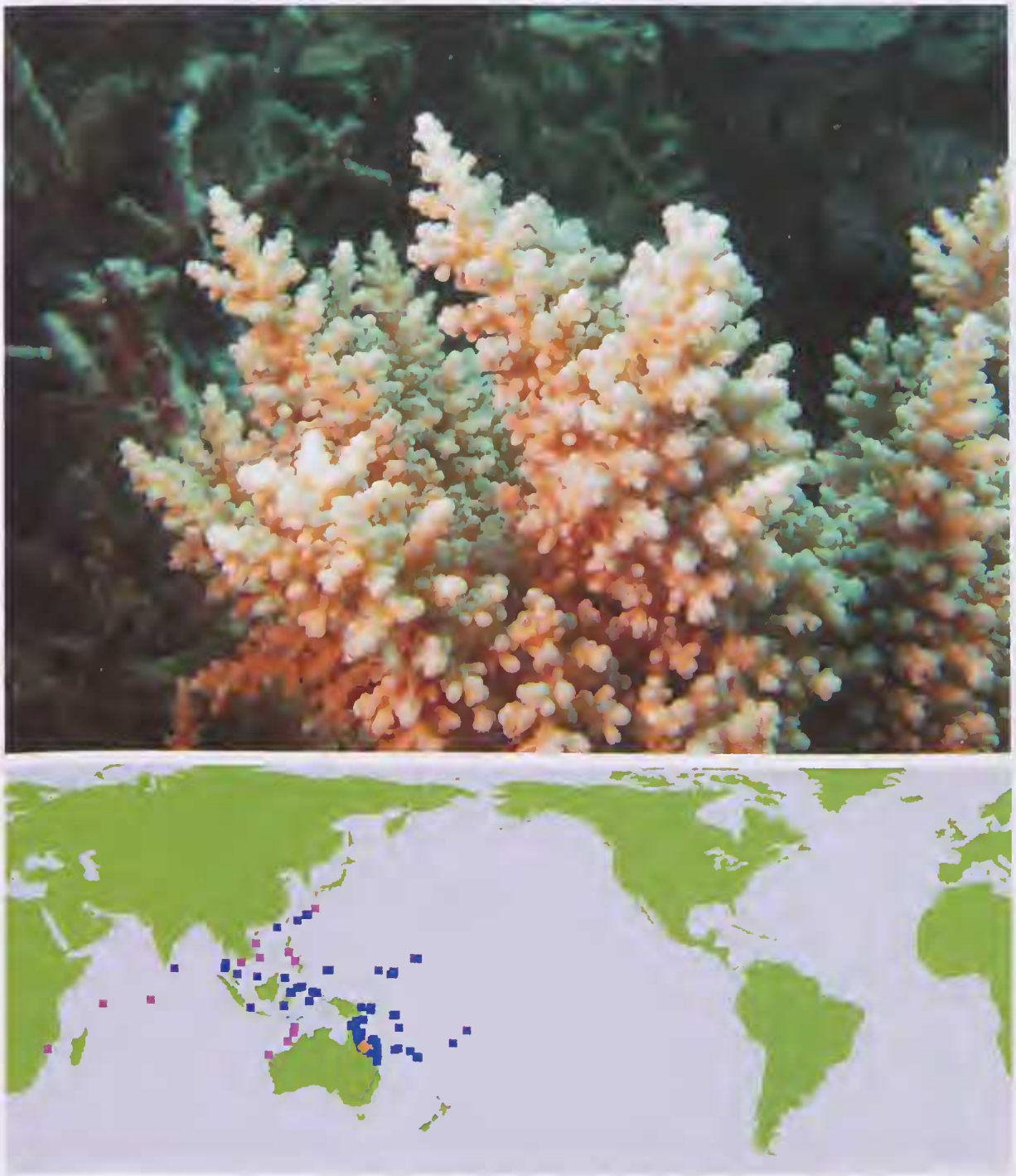


FIG. 56. *Acropora longicyathus*, G60598, Ribbon Reefs, Great Barrier Reef, Australia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora loripes (Brook, 1892)

(Fig. 57)

Madrepora loripes Brook, 1892: 459; 1893: 165, pl. 8 fig. B.

Madrepora murrayensis Vaughan, 1918: 183, pl. 82 figs 1, 1a–b.

Type locality. Green Island, Great Barrier Reef (lectotype NHM).

MTQ Holdings. Red Sea: G54788, G57789–90 Egypt; G54873 Saudi Arabia; G53551–52 Sudan; G54754 Yemen; **Mayotte:** G63290; **Seychelles:** G47953, G59440, G59464, G59531, G59535; **Mauritius:** G55572, G59352; **Rodriguez:** G33205, G33213, G54831; **Maldives:** G52092, G53022–24, G59779, G59991–92, G60304, G61606–08, G61614–15, G61624, G61631, G61636–60; **Chagos:** G51334–40, G51768; **Sri Lanka:** G55756–57, G56333; **Thailand:** G32804, G55931, G55995–96, G59423; **Malaysia:** G52629–30, G57652 mainland and islands; G41123–26, G41128, G41130, G41134, G53879 Sabah; **Singapore:** G41006, G41010 **Indonesia:** G50459–63, G53836 Sumatra; G50402–04, G54040, G59037 Bali; G51040–43, G51076 Nusa Tenggara; G50469–70, G50529, G53840–41 Alor; G48290, G48548 Lombok; G35978, G35983 Maluku; G54067–69 Tukangbesi Islands; G51039 Taka'bonerate; G50734 Seribu Is; G50804–05 Ambon; G50401, G50464–66, G50494, G51074–75, G53837–39 Flores; G39824, G50481, G50499–500, G53845–48 Kalimantan; G48277–89, G50471–80, G50482, G50496–98, G50530, G50802–03, G51037–38, G53842–44, G54041–48, G59050, G59052 Sulawesi; G54049–52, G54066 Molucca Sea; G54053–65 Halmahera; G48275–76 Banda Sea; G50467, G50495, G50468, G50595 West Timor; G61284 Irian Jaya; **Australia:** G41153, G41160, G48778–79 West; G27018, G27050, G27093, G27101, G27649–59, G27682–83, G27685, G28029–32, G28034–35, G28038–41, G28242–46, G28249, G28251, G28253, G28266–80, G28282–92, G29266–82, G29352–53, G29355, G29357, G29360–74, G29913–20, G29947–74, G29976–81, G30055–65, G30083, G30089–92, G30094, G30120, G30336, G30822–26, G35053–54, G39875, G51111–12, G56921, G56927, G57008–14, G58010, G58019, G58073, G58076, G58108, G59013, G60510, G60577, G60596, G62212, G62215, G62218–20, G62223, G62225–27, G62229, G62231, G62234, G62237, G62239–40, G62242–47, G62251–52, G62254, G62257, G62281, G63810, G64636, G64696, G64781 Great Barrier Reef; G30086, G30093, G58498, G64985 South-East; G28033, G28036, G28042, G28241, G28250, G28254, G29356, G30084, G30087, G30827, G33497, G35881, G57630, G60525, G63811, G64780 Coral Sea; **South China Sea:** G37572, G52181–84, G52278–80; **Japan:** G47784–85; **Philippines:** G32813; **Palau:** G56881, G60203, G63131; **Papua New Guinea:** G53344–51, G53500; **Louisiade Archipelago:** G33362 North: G41160 Timor Sea; **Micronesia:** G59274, G59285, G62525, G62593, G62652 Pohnpei; **Solomon Is.:** G52112–17; **New Caledonia:** G33107, G58699, G58703, G61042–43; **Chesterfield Atoll:** , G28027, G28247, G28255, G29354, G51241; **Marshall Is.:** G33140, G56164–65, G56211, G57169–80; **Niue:** G54665; **Cook Is.:** G55537–38.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: <1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.5–3.7 mm; inner diameter 0.5–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Turak & DeVantier (2011).

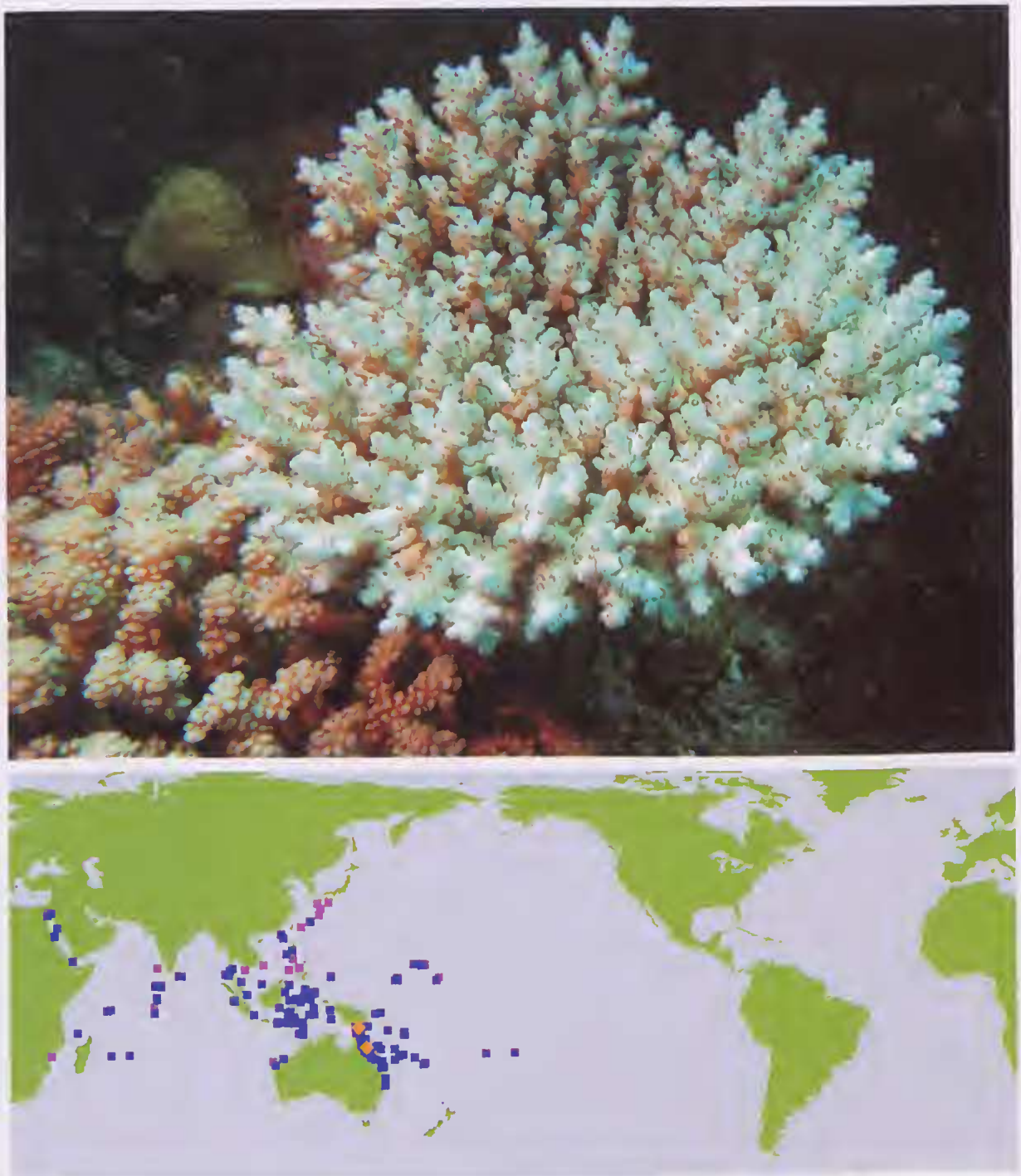


FIG. 57. *Acropora loripes*, G62245, Osprey Reef, Coral Sea, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora lovelli Veron & Wallace, 1984

(Fig. 58)

Acropora lovelli Veron & Wallace, 1984: 194, fig. 456.

Type locality. Middleton Reef, Coral Sea.

MTQ Holdings. HOLOTYPE G55075 Middleton Reef, Coral Sea; **Red Sea:** G54850 Eritrea; **Mauritius:** G54893; **Thailand:** G32794, G55359, G55381, G59314, G59325–7, G59336; **Australia:** G38662, G47014, G48782–88, G55062–63 West; G34138 Great Barrier Reef; G28935–46, G30449–61, G31146, G33186, G33196, G34155–62, G34164–68, G34243, G35990–94, G36620–25, G46936, G52758, G54689, G56973–74, G56978, G58774–76, G59364, G60132–33, G60394, G62824, G64595 South-East; G64589 Coral Sea; **Micronesia:** G38003 Chuuk; **Marshall Is.:** G56170–72, G57166–68, G57329–30; **Kiribati:** G54989; **Cook Is.:** G35705, G35860; **Austral Is.:** G35861; **Pitcairn Is.:** G54620–21.

Species group: *lovelli*.

Description. ***Colony outline:*** determinate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 2.0–4.3 mm; inner diameter 0.9–1.7 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: rounded appressed; openings: oval-rounded; primary septa to ¾ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

FIG. 58. *Acropora lovelli*, G64595, Lord Howe Island, E. Australia, 2007 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora lutkeni Crossland, 1952

(Fig. 59)

Acropora lutkeni Crossland, 1952: 229, pl. 41 fig. 1, pl. 46 fig. 2.

Type locality. June Reef, Great Barrier Reef (holotype NHM).

MTQ Holdings. Red Sea: G55264 Saudi Arabia; **Socotra:** G56962; **Kenya:** G58942, G59127, G59629–35; **Mayotte:** G63316–17; **Seychelles:** G47937–40, G59497; **Mauritius:** G51837–44, G54455–56, G54910; **Maldives:** G52081, G59821–25, G59895–03, G60264, G60267, G60272, G60276–77, G60279, G60281–82, G60286, G60289, G60362, G61759; **Chagos:** G51420–30, G51436–38, G51458–61; **Sri Lanka:** G55777, G56341–42; **Thailand:** G32793, G32806, G55978, G56090–93, G56441–42, G59403–04, G59408; **Malaysia:** G59146; **Singapore:** G41017; **Indonesia:** G47184–85, G49641 Sumatra; G49642–43 Flores; G49647–48 Kalimantan; G47254, G47437–44, G49644–46 Sulawesi; G54306, G54445–46, G54451 Molucca Sea; G52412–13, G54305, G54447–50 Halmahera; G47436 Banda Sea; G36033 Irian Jaya; **Australia:** G38393, G41157, G48914, G60660, G61681 West; G27562, G27566–68, G27570–71, G27573, G27575–76, G27580, G27584, G28557–58, G28560, G28562–63, G28565, G28569, G28572, G28693–99, G28702, G28704–5, G28757, G28760–61, G28868, G29520–21, G29524, G29526–27, G29529, G29534, G30610, G30613–15, G32716–20, G32723–28, G32731–33, G32735, G32737, G32740, G32745–46, G35143, G43583, G48296, G48327, G60544, G62946–54 Great Barrier Reef; G28763, G30611, G32729–30, G32736, G32739, G47278, G57488, G58416, G64969–73 South-East; G27563–65, G27569, G27572, G27574, G27577–79, G27581, G27583, G28561, G28564, G28567, G28570, G28700, G28703, G28706, G28756, G28762, G28764, G28788, G29532, G29535, G30609, G30612, G32722, G32741, G33442, G33490, G33522–23, G39845, G39848, G57875, G59365, G64779 Coral Sea; **South China Sea:** G46828, G52208–19; **Japan:** G38030, G47782, G47790–91, G47813, G62324; **Taiwan:** G43853, G45937, G47579, G47596; **Palau:** G63117; **Guam:** G36596–97, G40740, G53648–49; **Papua New Guinea:** G35613, G35671, G53105, G53412; **Louisiade Archipelago:** G35367, G54409–12; **Micronesia:** G38011 Chuuk; G59270–71, G62388, G62469 Pohnpei; **Solomon Is.:** G58588, G58997; **New Caledonia:** G34974–75, G34987, G61041, G61044; **Chesterfield Atoll:** G27582, G28559, G28568, G28571, G28573, G28701, G28758–59, G29522–23, G29528, G29530–31, G29533, G35689–90; **Marshall Is.:** G33135, G56142–44, G56149, G56233–34, G57321, G57324; **Kiribati:** G51223; **Fiji:** G40934, G40943; **Samoa:** G35602, G34721, G34730, G34735, G34878, G41200–03, G41292, G41298, G54264; **Niue:** G54672; **Cook Is.:** G35727, G35736, G35846, G35855, G35858–59, G35868–69, G35923–24, G35933–37, G35939, G36091–95, G39526, G46689, G49055–58, G49133–48, G53912–13; **French Polynesia:** G44035, G44040, G44043, G53576, G58629, G58649, G58769; **Society Is.:** G49062; **Tahiti:** G54692; **Austral Is.:** G63148–51; **Pitcairn Is.:** G35750, G54613–16.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 1.9–4.3 mm; inner diameter 0.6–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; greater than three synapticular rings; two sizes; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: open spinules; spinule shape: laterally flattened.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

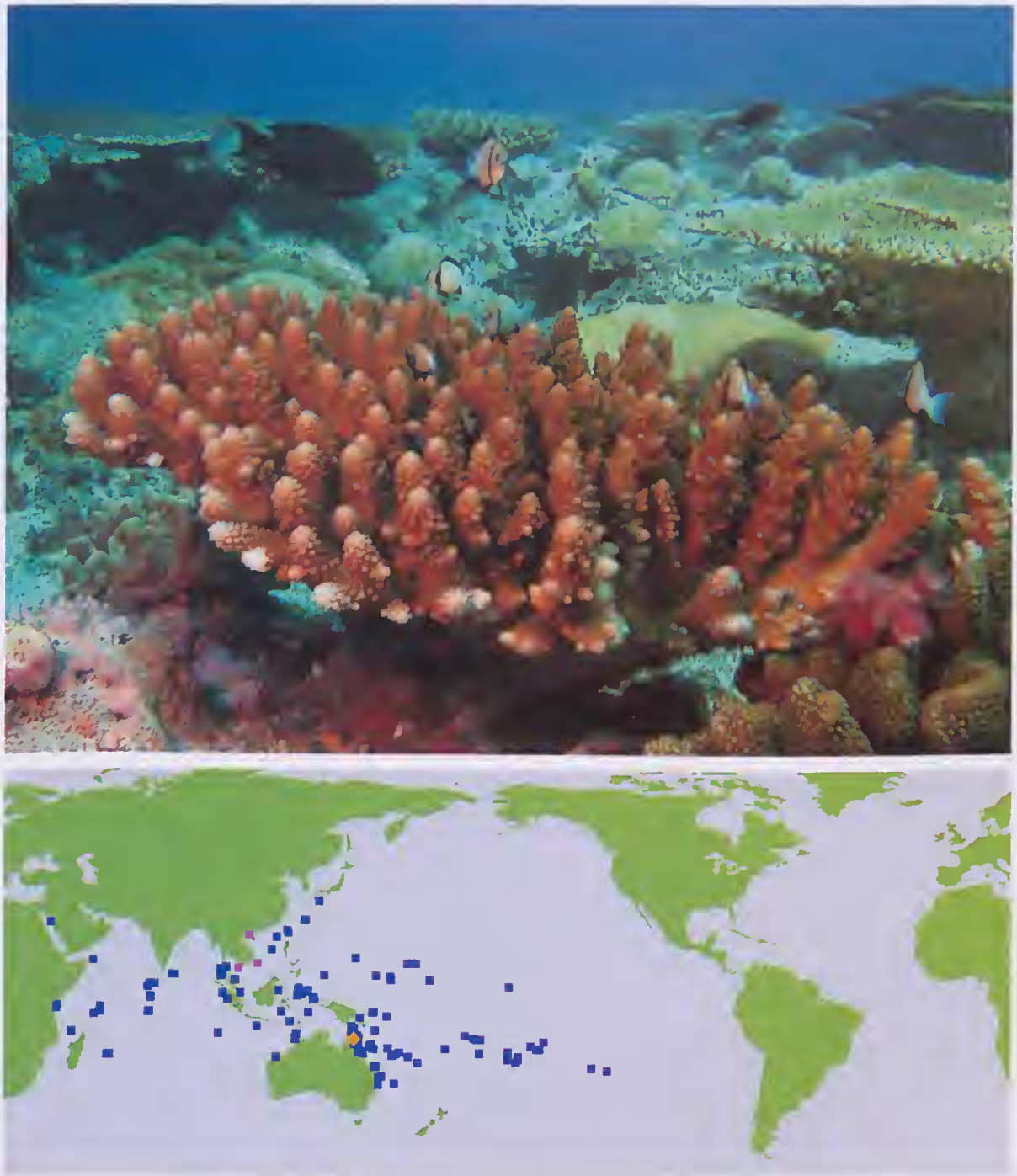


FIG. 59. *Acropora lutkeni*, G59901, Mau Faru, Ari Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora microclados (Ehrenberg, 1834)

(Fig. 60)

Heteropora microclados Ehrenberg, 1834: 109.
Madrepora assimilis Brook, 1892: 452; 1893: 85, pl. 20 fig. A.

Type locality. not recorded (lectotype MNB).

MTQ Holdings. Red Sea: G62981 Saudi Arabia; G54849 Eritrea; **Mayotte:** G63258, G63260, G63365; **Seychelles:** G59447, G59530; **Maldives:** G59776; **Chagos:** G51439; **Thailand:** G55890–91, G55979–81, G55985, G56436; **Indonesia:** G59184 Bali; G50600, G58641, G59086 Alor; G54251 Tukangbesi Islands; G50728 Seribu Is; G51073 Flores; G50929 Kalimantan; G47975, G50173, G50175, G50601–03, G50608, G50611, G54232–37, G57003 Sulawesi; G54239–40, G54248–50 Molucca Sea; G54238, G54241–47 Halmahera; G50598–99, G50606–07 Banda Sea; **Australia:** G41156 West; G51270 North; G29800–01, G29803, G29805–8, G30829, G30833–36, G30838–41, G57602, G57731, G58072, G58351, G59014, G59043, G60560, G62248, G64612, G64615 Great Barrier Reef; G30830, G58431, G58503, G64974, G64986 South-East; G30832, G60529, G63814 Coral Sea; **South China Sea:** G52190; **Japan:** G38053, G47788, G62307; **Taiwan:** G43854; **Philippines:** G32811; **Palau:** G56641–42, G60200, G61869; **Guam:** G53633; **Papua New Guinea:** G35640, G35644–45, G35676, G35681, G53433–39, G53518, G59107; **Micronesia:** G40720, G40777 Yap; G62488, G62621–22 Pohnpei; G62747 Kosrae; **Solomon Is.:** G52573, G57921, G58594; **New Caledonia:** G34991, G61036–40, G61225; **Chesterfield Atoll:** G29804; **Marshall Is.:** G56159; **Samoa:** G41286; **Cook Is.:** G35709; **Pitcairn I.:** G54629.

Species group: *loripes*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.0–2.9 mm; inner diameter 0.6–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: elongate lip; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: blunt irregular.

Taxonomic note. Brook (1982: 103) singled out one of Ehrenberg's specimens as the only possible type of this species, and this is regarded as the lectotype. Brook also synonymised *A. flabelliformis* (Milne Edwards & Haime, 1860) with this species.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

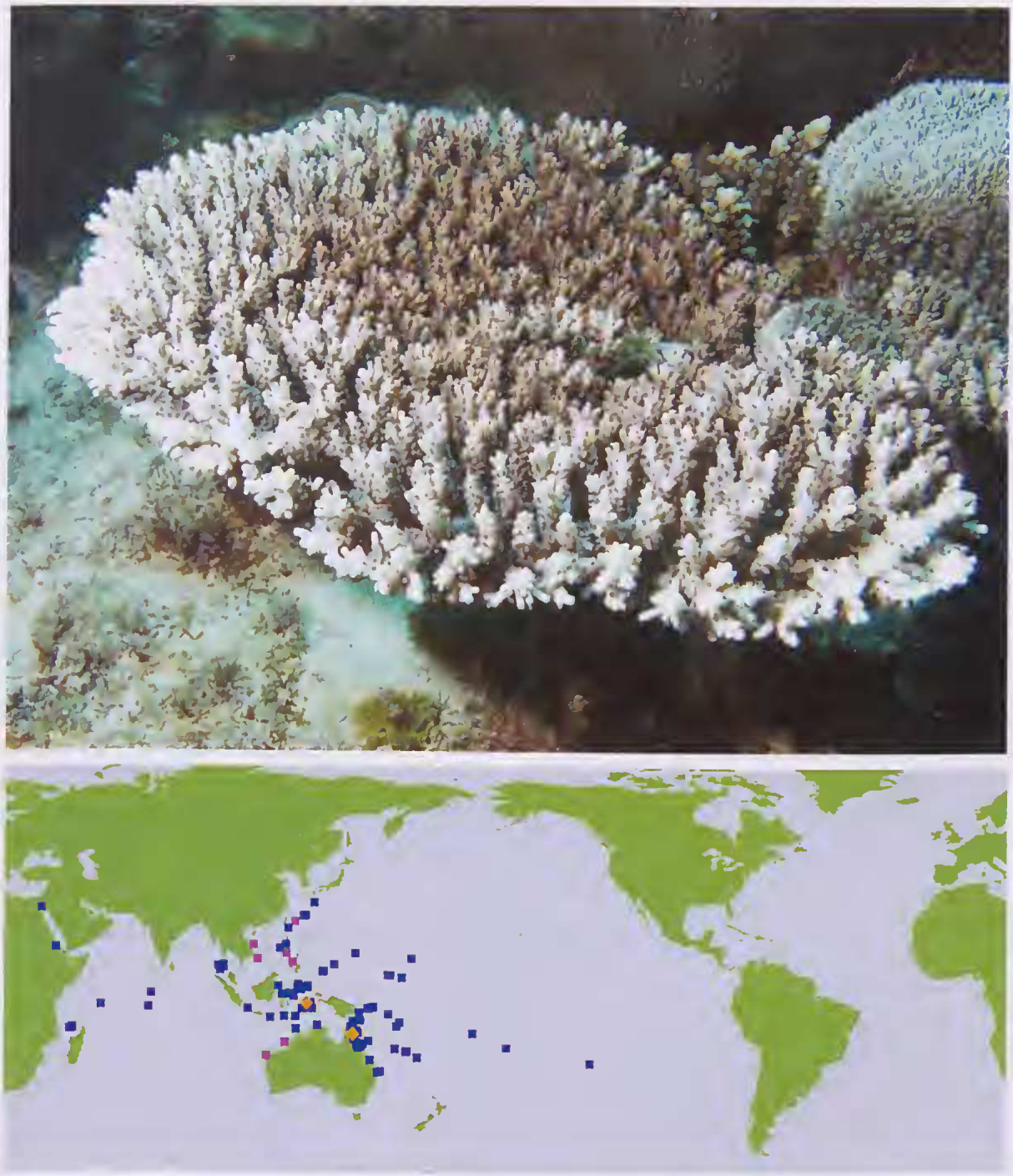


FIG. 60. *Acropora microclados*, G64974, Flinders Reef. E. Australia, 2011 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora microphthalma (Verrill, 1869)

(Fig. 61)

Madrepora microphthalma Verrill, 1869: 83.

Type locality. Ryukyu Islands, Japan (holotype YPM).

MTQ Holdings. Red Sea: G54753, G54864 Yemen; **Socotra:** G56958, G57402; **Kenya:** G35556, G58937; **Comoros:** G55098–99; **Mayotte:** G63177–79, G63343, G63423–24; **Seychelles:** G47931, G51866–68, G59453, G59479, G59501, G59507, G59509, G59539–40, G59542, G59548–50, G59568, G59579, G59584, G59587, G59590; **Mauritius:** G52118, G54527, G54905–07; **Maldives:** G52007–08, G52093–94, G53025, G59796–02, G59947–48; **Sri Lanka:** G55766; **Thailand:** G32807, G55893–95, G55923–25, G56444; **Malaysia:** G57658 mainland and islands; G53896, G53929–30, G55027 Sabah; **Indonesia:** G50485 Sumatra; G49272–74 Bali; G49256 Alor; G35762, G35962, G35970 Maluku; G54009 Tukangbesi Islands; G43818 Taka'bonerate; G50741 Seribu Is; G49248–55, G49363 Flores; G49268–71, G49534, G50911 Kalimantan; G59078 Semau; G35522–25, G48223–28, G49257–67, G49361–66, G50486, G50813–14, G53667–68, G53997–98, G54000–01, G63335 Sulawesi; G54008 Molucca Sea; G52416, G53669, G54002–07, G59101 Halmahera; G47050–51, G49362 Banda Sea; G60749, G61295, G61297 Irian Jaya; **Australia:** G36793, G40849–51, G41146 West; G27042, G27094, G27519–23, G27525, G27527–37, G29283–86, G29288–97, G29510–11, G29514, G29516–19, G29787–88, G29790–99, G31013, G32459, G32465, G39878, G41242–53, G49232, G56928, G56933, G57515, G57532, G58012, G58020, G58077, G58152–55, G58198–207, G58260–61, G58316–18, G58352–53, G58364–65, G58375, G58386 Great Barrier Reef; G29512 Coral Sea; **South China Sea:** G52230–37, G52257; **Japan:** G36842, G36921, G47764–66, G47970–71, G48382; **Taiwan:** G43855, G45827–28, G45893–94, G45902, G46430–31, G47619; **Philippines:** G32824; **Palau:** G56872, G56896, G56912–14; **Papua New Guinea:** G35630, G35916, G35919, G35921, G53252–54, G53352–66, G53568–69, G61731 North: G40849–51, G41146 Timor Sea; **Micronesia:** G62618, G62719 Pohnpei; **Solomon Is.:** G58587; **New Caledonia:** G33086, G34949, G35000, G59170; **Chesterfield Atoll:** G38156, G38161–63; **Marshall Is.:** G33131, G57339; **Kiribati:** G55029–30; **Fiji:** G33315, G40932.

Species group: *horrida*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 10.0–19.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.8–2.7 mm; inner diameter 0.6–1.0 mm; primary septa to ¾ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: costate; spinule shape: blunt irregular.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Turak & DeVantier (2011).

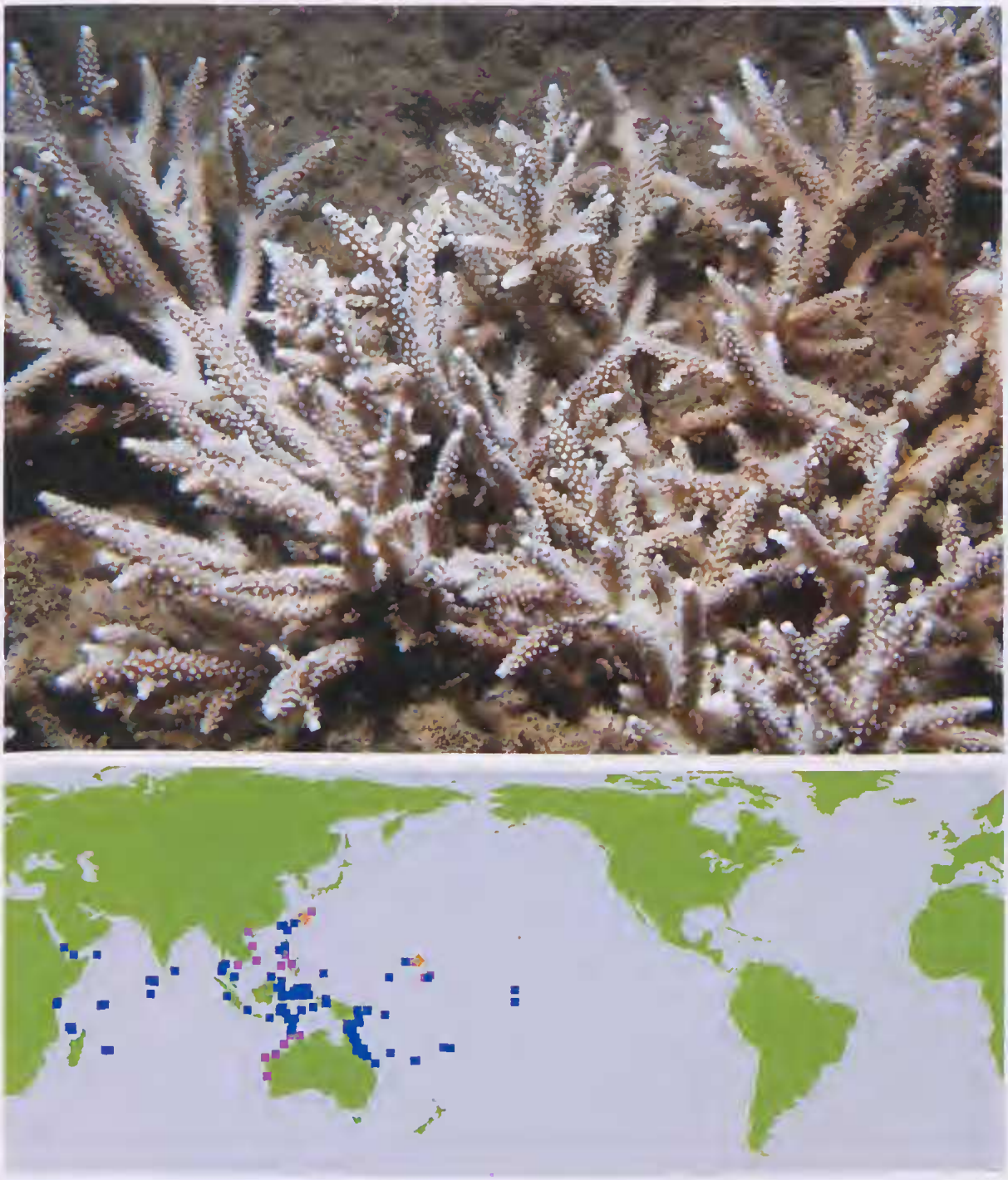


FIG. 61. *Acropora microphthalma*, G63177, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora millepora (Ehrenberg, 1834)

(Fig. 62)

Heteropora millepora Ehrenberg, 1834: 109.
Madrepora convexa Dana, 1846: 449.
Madrepora prostrata Dana, 1846: 447, pl. 33 fig. 1.
Madrepora rubra Studer, 1878: 529.
Madrepora squamosa Brook, 1892: 463; 1893: 120, pl. 20 fig. B.
Acropora singularis Nemenzo, 1967: 91 pl. 26 fig. 5.
Acropora librata Nemenzo, 1967: 121, pl. 34 figs 1–2.

Type locality. not recorded (holotype MNB).

MTQ Holdings. Red Sea: G54710 Yemen; **Socotra:** G56947–48; **Maldives:** G59769–72, G61621–22, G61632; **Thailand:** G35955, G55916–21, G56004, G59397; **Malaysia:** G41144 Sabah; **Singapore:** G41008, G41026–27, G41033–34, G45888; **Indonesia:** G32838, G32845, G59196 Java; G46987, G46989, G50006, G53729 Bali; G50950–51 Nusa Tenggara; G50004–05, G50017 Alor; G49796–802 Riau; G50949 Taka'bonerate; G50759 Seribu Is; G47030, G50776, G50835 Ambon; G49999–50002, G50015, G50091 Flores; G35583, G39795, G39809–11, G39821, G50011, G50019 Kalimantan; G35413, G48043–48, G50007–10, G50018, G50089–90, G50777–78, G54311 Sulawesi; G53730–34, G54312 Halmahera; G46969–73 Banda Sea; G50003, G50016 West Timor; **Australia:** G36783, G38664, G40781, G48770–74, G49998, G51544, G52478–89, G52652–57, G52716–18, G61087 West; G48124, G48128, G51263–64, G58975, G58984–85 North; G27017, G27041, G27092, G27684, G28390–91, G28393, G28395–97, G28400–01, G28404–05, G28407–08, G28410, G28412, G28414, G29170–83, G29185–92, G29194–99, G29874, G29877–83, G29885–87, G30010, G30012, G30014–17, G30022, G30024, G31166, G31168, G32451–52, G32458, G34235, G35724, G36101, G37356–57, G37391, G40874, G40900–01, G40962–67, G40998–99, G41001–02, G41095, G46026–27, G46030–32, G46036, G46424–27, G46584, G46964–65, G48358–61, G48363, G48365, G49234, G49240, G57536, G57551, G58166, G58208–20, G58243, G58262, G58266–67, G58279–81, G58297, G58319–22, G58354, G58357–58, G58366–67, G58376, G58904, G60224, G62285, G63893, G64743 Great Barrier Reef; G30011, G30013, G30018–21, G30025, G58415 South-East; G29193, G33466, G33521 Coral Sea; **South China Sea:** G52262–63, G52356; **Japan:** G35490, G38025, G47781, G62338; **Taiwan:** G45838; **Philippines:** G45874; **Papua New Guinea:** G35619, G52875–94, G52896–915, G53564, G59117; **Solomon Is.:** G59038, G35606; **New Caledonia:** G33104, G34952, G58720, G58731, G58734, G61220; **Chesterfield Atoll:** G28402, G29884, G38169; **Marshall Is.:** G33120, G37986; **Fiji:** G11033–43.

Species group: *aspera*.

Description. *Colony outline:* determinate, predominantly corymbose. *Branches:* tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. *Axial corallites:* three synapticular rings; porous; outer diameter 1.2–3.9 mm; inner diameter 0.4–1.6 mm; primary septa to ½ R. *Radial corallites:* medium; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to 2/3 R. *Coenosteum:* different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

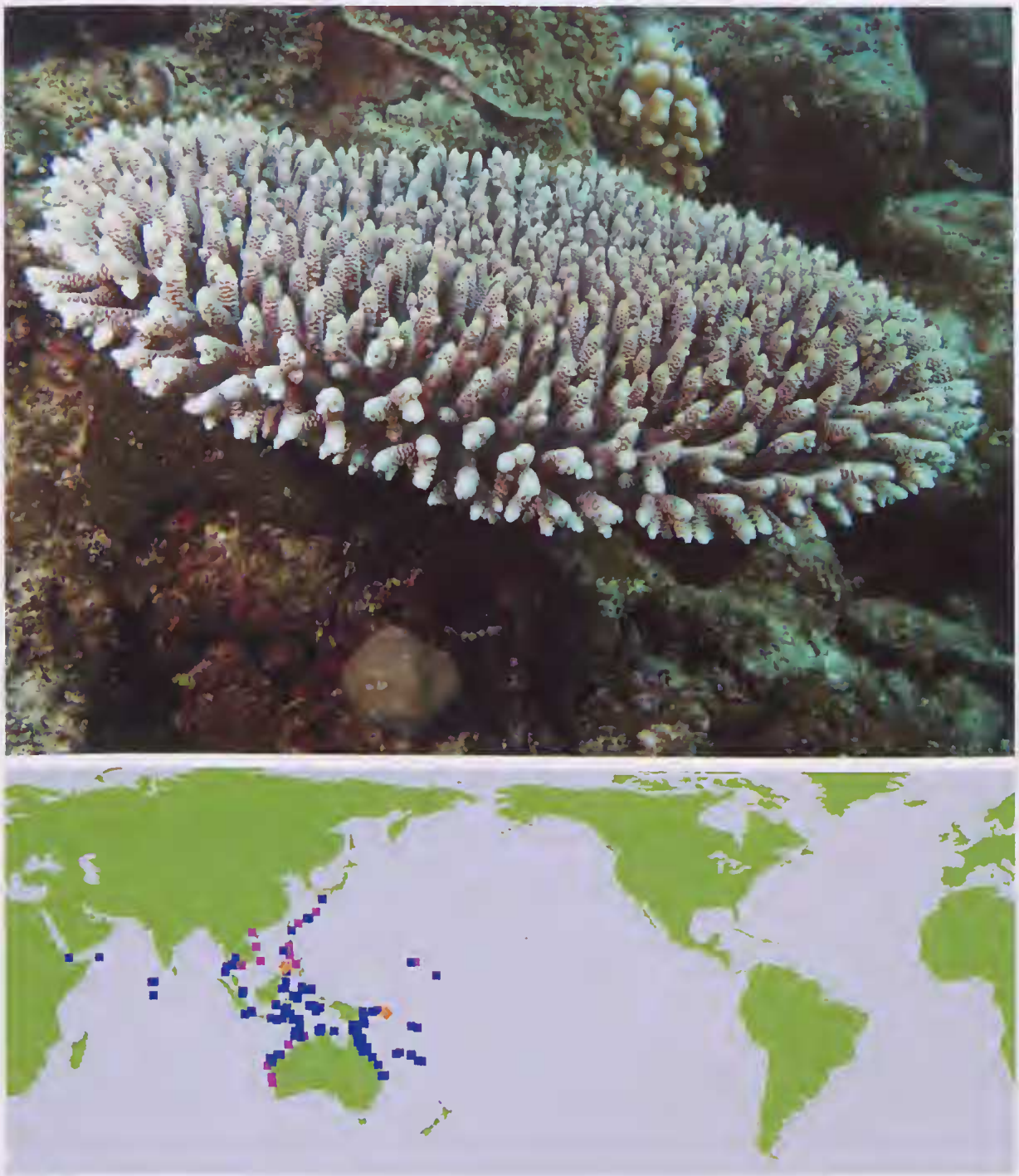


FIG. 62. *Acropora millepora,* Agincourt Reef, Great Barrier Reef, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora monticulosa (Brüggemann, 1879)

(Fig. 63)

Madrepora monticulosa Brüggemann, 1879: 576.

Type locality. Rodriguez (lectotype MHN).

MTQ Holdings. Seychelles: G47908; **Mauritius:** G51847; **Maldives:** G59777; **Thailand:** G55982; **Indonesia:** G34173, G47308–16, G49010 Sulawesi; G51580–82 Molucca Sea; **Australia:** G38367 West; G27383–86, G27388–89, G27391–95, G27397–400, G27404, G27413, G27421, G27424, G30235, G33003–04, G51300, G56371, G56807, G63900–01 Great Barrier Reef; G33465, G33515, G63807 Coral Sea; **Japan:** G47786; **Taiwan:** G56701–02; **Palau:** G56862; **Guam:** G40738–39, G40741, G49045–46, G53630, G63329; **Papua New Guinea:** G35909; **Micronesia:** G41168 Yap; G59293, G62413 Pohnpei; G62752, G62761–62, G62782–83 Kosrae; **Solomon Is.:** G56703–05; **New Caledonia:** G61047; **Chesterfield Atoll:** G27387, G27396; **Samoa:** G34818, G34879, G56034; **Niue:** G36104, G36106, G39529, G54679; **Cook Is.:** G35699, G35849, G35857, G35927, G35946, G36111, G36114, G39524–25; **French Polynesia:** G35546–48, G58661; **Tahiti:** G54690–91; **Pitcairn Is.:** G35751, G49039.

Species group: *humilis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.4–3.8 mm; inner diameter 0.6–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Wolstenholme *et al.* 2003, Turak & DeVantier (2011).

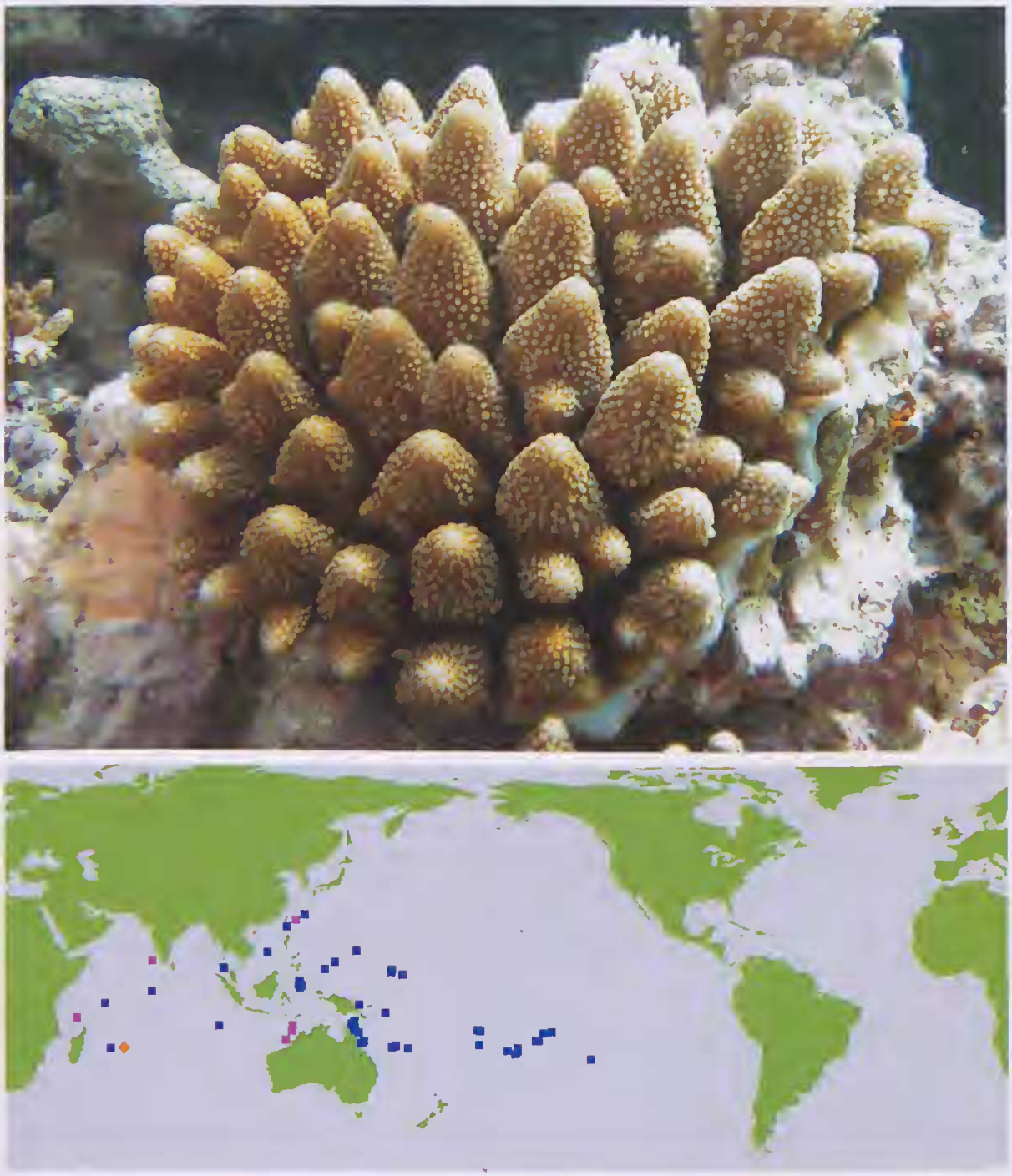


FIG. 63. *Acropora monticulosa*, G59777, Addu Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora mossambica Riegl, 1995

(Fig. 64)

Acropora mossambica Riegl, 1995: 240–41, figs 8–9.

Type locality. Xai Xai, Mozambique (holotype ORI).

MTQ Holdings. Socotra: G56963; **Kenya:** G59599–604; **Mayotte:** G63307; **Seychelles:** G51888, G59552, G59560, G59573; **Mauritius:** G51846, G51880; **Maldives:** G59768, G59869–71, G60380; **Australia:** G60399, G60401, G60412 South-East.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 10.0–19.9 mm, 50/50 axial/radial, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; porous; outer diameter 1.1–2 mm; inner diameter 0.8–0.9 mm; primary septa to ¾ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: elaborate.

Taxonomic note. This was not included as a valid species in Wallace, 1999. The work of Mangubhai & Harrison (2006), on reproduction of *Acropora* species in Kenya has shown it to be a valid species with reproducing populations in that area. Its range may extend into the Pacific Ocean (M. Adjeroud, pers. comm.).

Further literature. Veron (2000).

FIG. 64. *Acropora mossambica*, G63307, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora multiacuta Nemenzo, 1967

(Fig. 65)

Acropora multiacuta Nemenzo, 1967: 133, pl. 39 figs 1–3.

Type locality. Cebu, Philippines (holotype MSI-UP).

MTQ Holdings. Indonesia: G48387–89 Flores; G48843–52, G50534, G55433, G55434, G56729–33, Sulawesi; **Australia:** G27463–75, G35384–403, G41264 Great Barrier Reef; **Philippines:** G55008; **Solomon Is.:** G52574–75, G58585.

Species group: *humilis*.

Description. *Colony outline:* determinate, predominantly corymbose. *Branches:* tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: not touching; axial/radial ratio: <1:10. *Axial corallites:* greater than three synapticular rings; not porous; outer diameter 2.4–6.5 mm; inner diameter 0.6–2 mm; primary septa to ¾ R. *Radial corallites:* large; greater than three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: oval-rounded; primary septa to ¼ R. *Coenosteum:* same on and between radials: reticulate; spinule shape: elaborate.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Wolstenholme *et al.* (2003).

FIG. 65. *Acropora multiacuta*, Togian Is, Indonesia, 1999 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora muricata (Linnaeus, 1758)

(Fig. 66)

Millepora muricata Linnaeus, 1758: 792.
Madrepora formosa Dana, 1846: 473, pl. 38 fig. 4, pl. 31 figs 2a–b.
Madrepora gracilis Dana, 1846: 482, pl. 41 figs 3–3a.
Madrepora virgata Dana, 1846: 471, pl. 39 fig. 1.
Madrepora brachiata Dana, 1846: 474.
Madrepora stellulata Verrill, 1902: 238, pl. 36C fig. 3, pl. 36F fig. 10.
Acropora laevis Crossland, 1952: 230, pl. 45 figs 1–2.
Acropora copiosa Nemenzo, 1967: 56, pl. 20 figs 1–2.
Acropora varia Nemenzo, 1967: 59, pl. 21 figs 1–2.

Type locality. Gunung Api I., Banda, Indonesia.

MTQ Holdings. NEOTYPE G49167 Indonesia; **Red Sea:** G54860–61, G55256, G58677 Saudi Arabia; G51944, G53544–46, G54277–79, G54705, G54732, G54828, G54853, G62974, G63227 Yemen; **Socotra:** G56954, G56956, G57401; **Comoros:** G55095; **Mayotte:** G63182–88, G63277, G63345, G63420; **Persian Gulf:** G55033, G58681 Saudi Arabia; **Seychelles:** G47922–24, G51850, G59452, G59467, G59477, G59483, G59487, G59518, G59537, G59554, G59565; **La Réunion:** G33208; **Mauritius:** G33215, G39788, G51826–28; **Maldives:** G59739–46, G59952–54, G60372; **Chagos:** G51366–67, G51447, G53307, G53308; **Sri Lanka:** G55582, G55769, G56345–46; **Thailand:** G35958, G52644, G56007–08, G56134, G56465–70, G56133–34, G59333, G63006; **Malaysia:** G52627–28, G57680, G59142 mainland and islands; G40195–96, G40198, G41135, G53881, G53897 Sabah; **Singapore:** G41015; **Indonesia:** G47159, G49176–79, G49427–28, G53663 Sumatra; G32851, G59201–02 Java; G49205, G50222, G53775 Bali; G50916 Nusa Tenggara; G49189–90 Alor; G48219–20, G49172–74 Lombok; G35761, G35974, G35976 Maluku; G43811 Taka'bonerate; G50705–20 Seribu Is; G47127, G50830, G50834 Ambon; G49180–84, G49429, G50917, G59074 Flores; G49197–204, G49275, G49440–44, G50912–15 Kalimantan; G49187, G49302, G49432 Semau; G47839–40, G48195–218, G49168–71, G49175, G49191–96, G49206, G49422–26, G49433–39, G50824–29, G53664, G53776–82, G55444–48, G56618, G56620, G59089, G59664–66 Sulawesi; G53783, G53797–99 Molucca Sea; G53784–96, G54304 Halmahera; G47123–26, G48194, G49165–67, G49421 Banda Sea; G49185–86, G49430–31, G49188 West Timor; G60751 Irian Jaya; **Australia:** G36794, G38369, G40460, G40462–63, G40789, G40838–41, G40845, G40864–65, G40871, G40873, G48726–31, G52680–88, G61068–70, G61095, G61256–62, G61586, G61667, G61685, G61691–93 West; G39779, G48491, G51275–76 North; G27029, G27057, G27082, G27516–18, G27538–44, G27688–92, G27694–96, G27698, G28347, G28875–78, G28880, G28986, G28989–90, G28992–93, G28995–96, G29708–10, G29712–14, G30207, G30487–92, G30494, G31008, G31010–12, G32457, G34191, G39789–90, G40896–97, G40971, G40978–84, G40996–97, G41003–05, G41069, G47288–90, G47387, G47630–32, G48255–64, G48454–62, G49235, G49239, G49994, G50836–38, G51105, G52057, G56932, G57037–40, G57511, G57526, G58221–23, G58268, G58601, G59022, G62907–08, G64748, G64765 Great Barrier Reef; G65005 South-East; G27697, G28881, G31007, G60232 Coral Sea; **South China Sea:** G37563, G37573, G52225, G52260–61; **Japan:** G36844, G36847–48, G36905–07, G36913, G47738–40, G47965, G48379, G62342–45, G62832, G62858, G62986–89; **Taiwan:** G43844, G43850, G43852, G43856, G45774–84, G45786–87, G45789, G45840, G45846, G45897, G45904, G47607, G47614–16, G58028–31; **Philippines:** G32817, G41557–58, G41569, G41703–05, G45858, G52314–15, G52326–29; **Palau:** G61860; **Papua New Guinea:** G35623, G35635, G35677, G35824, G35920, G52831–50, G53106–07, G53591; **Louisiade Archipelago:** G35368; **Micronesia:** G40709–10, G40717 Yap; G36606–08, G38001 Chuuk; G40804, G40816, G40831, G47395–96, G62369–74, G62540, G62550, G62571 Pohnpei; G62786 Kosrae; **Solomon Is.:** G58574, G59002; **New Caledonia:** G33088, G33098, G34965, G34967, G35001, G54687, G58717, G58721, G58739, G61200, G61219; **Chesterfield Atoll:** G38145; **Marshall Is.:** G33123, G56200–02; **Kiribati:** G54824; **Fiji:** G33311–13, G34805, G34814, G40928, G40930, G40938, G58970; **Samoa:** G34734, G34872, G41193, G41288, G43460, G43497, G56029; **French Polynesia:** G55443; **Austral Is.:** G63228.

Species group: *muricata*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.5–3.0 mm; inner diameter 0.8–1.2 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Taxonomic note. The type species of the genus. Designation of a neotype has stabilised the species and genus *Acropora*: see Wallace (1999: 2–4, figures 1–2) for a discussion of the nomenclatural history of the genus, and Wallace (1999: 182) for designation of the neotype).

Further literature: Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron(2000), Pillay *et al.* (2002), Nomura & Mezaki (2005), Dai & Horng (2009), Pichon *et al.* 2010, Turak & DeVantier (2011).

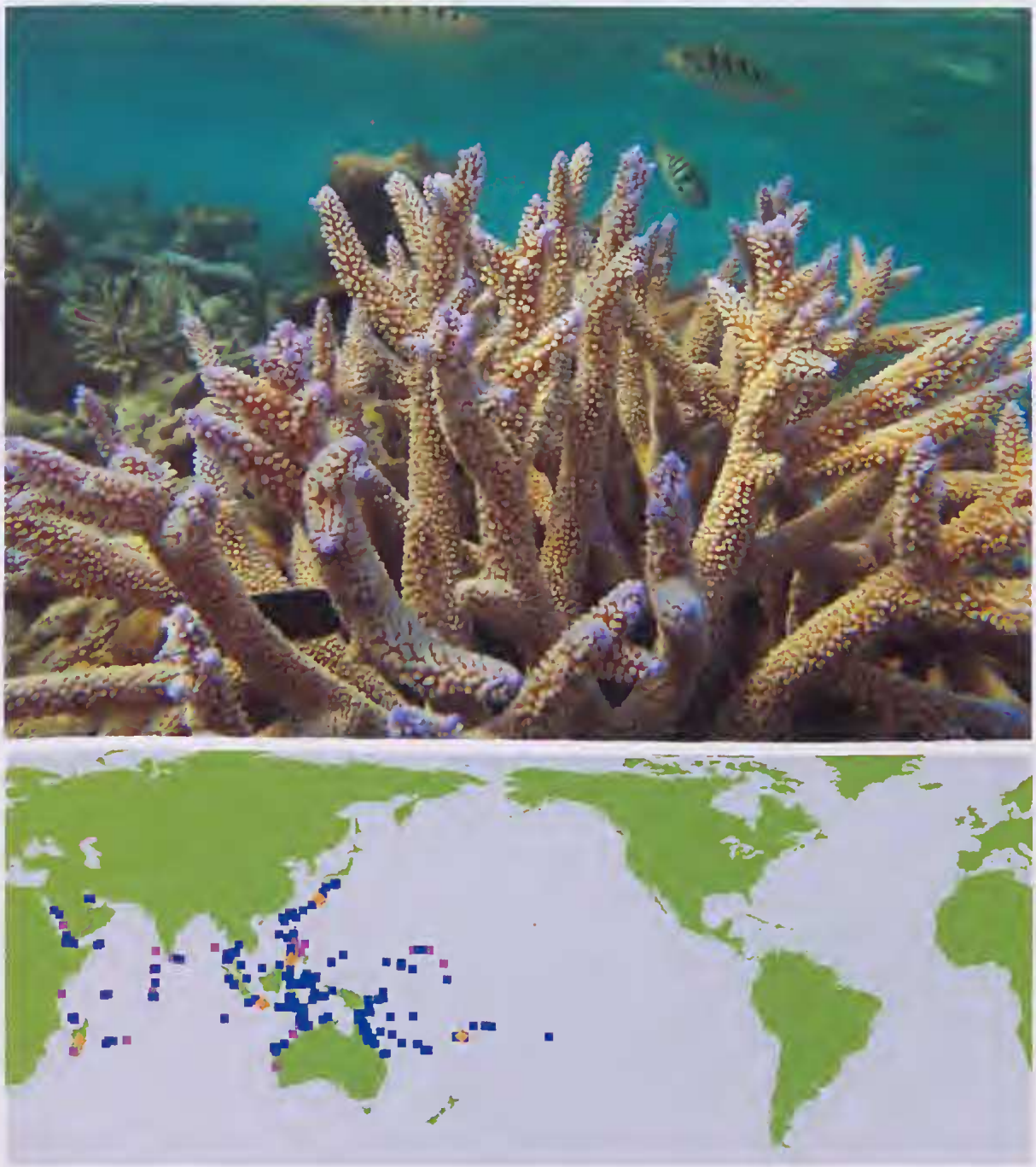


FIG. 66. *Acropora muricata,* G60372 Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora nana (Studer, 1878)

(Fig. 67)

Madrepora nana Studer, 1878: 533, pl. 2 fig. 6.
Acropora azurea Veron & Wallace, 1984: 332, figs 819–20.

Type locality. Fiji (holotype MNB).

MTQ Holdings. G48399 HOLOTYPE of *A. azurea* G55100 PARATYPE of *A. azurea* from the Great Barrier Reef, Australia; **Maldives:** G60261, G60265; **Malaysia:** G53892 Sabah; **Indonesia:** G50513 Bali; G49914, G53671 Alor; G51070 Taka'bonerate; G47571 Ambon; G47572–73, G49913 Sulawesi; G54135, G54139 Molucca Sea; G54136–38 Halmahera; G47565–70, G47574 Banda Sea; **Australia:** G40846–47, G61085–86, G61587 West; G30673, G30675–78, G30680–82, G30688–90, G33166–71, G43587, G55100, G57546, G63894 Great Barrier Reef; G30686, G35996, G64992 South-East; G28805, G30674, G30683–85, G30687 Coral Sea; **Taiwan:** G45829; **Philippines:** G32828, G41695; **Papua New Guinea:** G36013–14, G53560, G53590, G53613–15; **New Caledonia:** G61011; **Marshall Is.:** G56226–27; **Fiji:** G40947; **Samoa:** G36637; **French Polynesia:** G35609.

Species group: *latistella*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.3–2.0 mm; inner diameter 0.5–1.0 mm; primary septa to 1 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** same on and between radials: reticulo-costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Nomura & Mezaki (2005), Dai & Horng (2009).

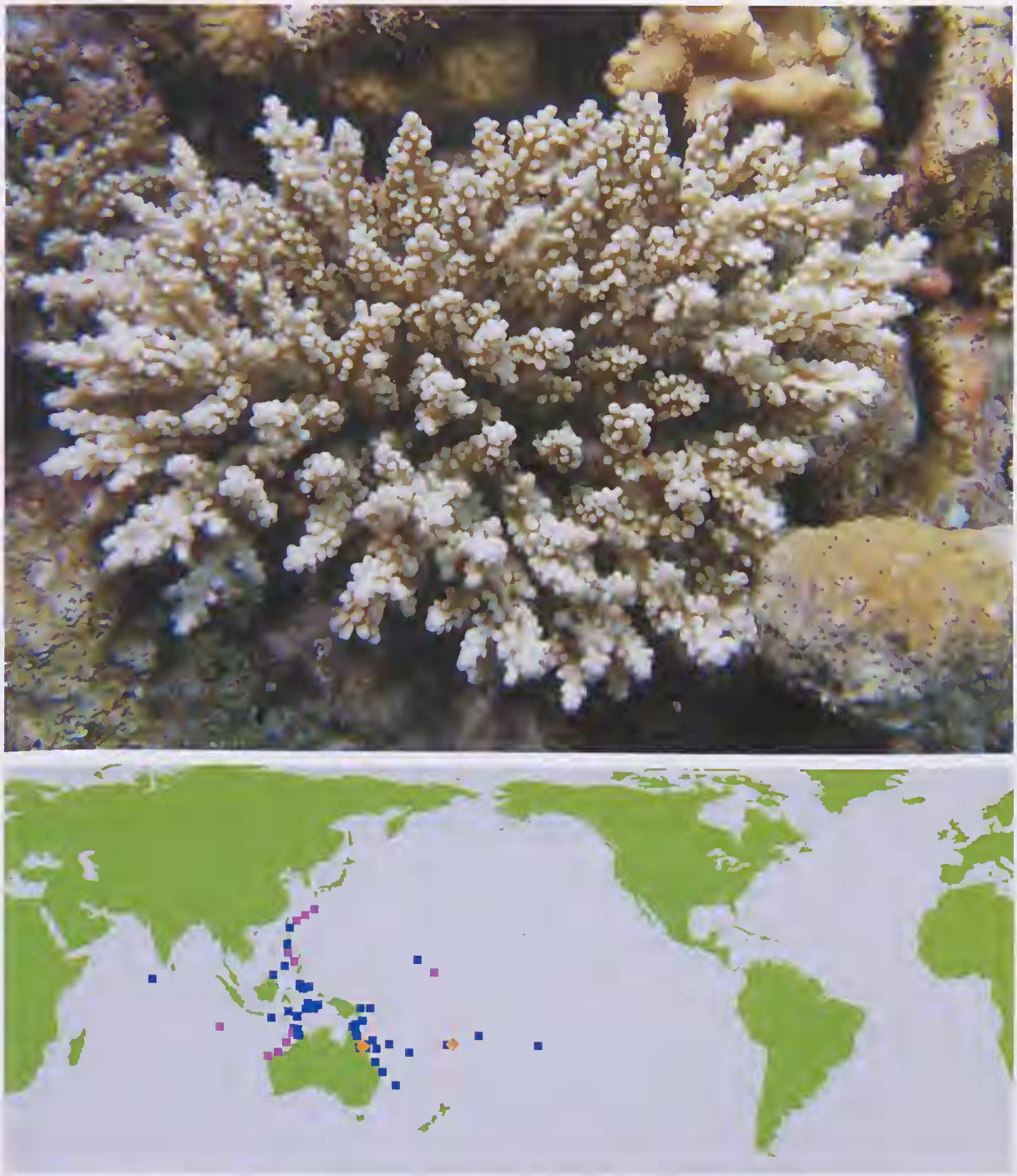


FIG. 67. *Acropora nana*, G60261, Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora nasuta (Dana, 1846)

(Fig. 68)

Madrepora nasuta Dana, 1846: 453, pl. 34 fig. 2.
Madrepora effusa Dana, 1846: 455.
Madrepora canaliculata Klunzinger, 1879: 12, pl. 1 fig.3, pl.4 fig.10.

Type locality. Tahiti (lectotype NMNH-SI).

MTQ Holdings. Red Sea: G55575 Egypt; G54771, G55248–09 Saudi Arabia; G54777 Sudan; G53542–43, G54751–52, G54773–76, G55573 Yemen; **Oman:** G40951, G40959; **Socotra:** G56961, G57405; **Kenya:** G35573–74, G54926–27, G58935, G58940; **Mayotte:** G63321–22, G63380–84, G63432; **Seychelles:** G47941–42, G51863, G59481, G59485, G59488, G59512, G59520, G59529, G59545–46, G59559, G59574, G59588; **La Réunion:** G54781; **Mauritius:** G51813–14, G54898; **Rodriguez:** G54785; **Maldives:** G52005, G52074–75, G53026–29, G59803–07, G59962–66, G60328, G60347, G60369, G61627; **Chagos:** G51434, G51448–52; **Thailand:** G32805, G55879–85, G56009, G56454–56, G56471–76, G59338, G59422; **Malaysia:** G52618, G57676, G59152 mainland and islands; G40023, G40188, G53919 Sabah; **Indonesia:** G58692, G47177, G47190–92, G49552–56, G49718, G50131 Sumatra; G50791, G32835, G32840, G59199 Java; G49570, G49575–76, G50132–34, G54283, G59180 Bali; G49564–69, G50454 Alor; G48020 Lombok; G35965 Maluku; G49861–68 Riau; G54298–99, G54416–20 Tukangbesi Islands; G43817, G50946–47 Taka'bonerate; G50730–31 Seribu Is; G36210, G48014, G50128 Ambon; G49557–62 Flores; G39812, G49573–74, G50597 Kalimantan; G34174, G35506–09, G35819, G48015–19, G49571–72, G50129–30, G50135–36, G50948, G54284–85, G55455, G59386 Sulawesi; G54131, G54286–87, G54296–97, G54541 Molucca Sea; G54132, G54288–95 Halmahera; G48008–13, G50125–27 Banda Sea; G49563 West Timor; G60761 Irian Jaya; **Australia:** G36049, G36052, G40464, G47011–12, G48721–24, G51547, G52459–77, G52544–72, G52689–715, G60622, G60627, G60638, G60648–50, G60663, G61664, G61671 West; G51265, G54738, G58977, G58980–81 North; G27028, G27046, G27065, G27081, G27251, G28925–29, G28931–33, G29235–39, G29241, G29636–39, G29641, G29643–47, G29650–51, G29867–68, G29870–71, G30132–33, G30135, G30138, G30140–42, G30144–47, G30248, G30250–53, G30256, G30261–67, G30269, G30271, G30274–76, G30435, G30437, G30439, G30441, G30444, G30446–47, G30739, G30741–42, G30744, G30761, G30763, G30765, G30767–68, G30770–71, G30773–75, G30799–801, G30803–06, G30809–10, G30854–57, G30860–62, G31042–46, G31048–49, G32215, G32469–70, G34150, G35025, G35125, G37403, G39877, G40904–5, G40975, G40977, G47293, G47388, G47633–35, G48249–51, G48292, G48317, G49244, G50694, G51145–50, G55487–90, G55514, G57538, G57547–48, G57550, G57607–08, G58001, G58018, G58022, G58062, G58905, G60226, G60556, G61761, G64673, G64725 Great Barrier Reef; G29865, G29869, G29872, G30772, G30808, G58420, G58425, G58429, G60088, G60117, G64993–95 South-East; G29240, G29866, G30134, G30136, G30258, G30260, G30268, G30272, G30436, G30442–43, G30445, G30448, G30743, G30764, G30766, G30802, G30807, G33461, G33484, G33489, G33503, G33510, G35880, G57615, G57620, G60559 Coral Sea; **South China Sea:** G52191–07, G52264–66, G52363; **Japan:** G36834–35, G38013, G38028, G38040, G38048, G38051, G38056, G47747–51, G62297, G62333, G62860; **Taiwan:** G35499, G45844; **Philippines:** G32825, G41699–01, G45852–53, G52376–77; **Palau:** G56636–37; **Guam:** G53629, G53647; **Papua New Guinea:** G35621–22, G35633, G35651, G35895–96, G52916–26, G53414, G53609; **Micronesia:** G40716, G40772 Yap; G40754, G40824, G59265, G62394–97, G62463–64 Pohnpei; G62730–32, G62754–57 Kosrae; **Solomon Is.:** G52122–29, G52606–07, G52750, G58566; **New Caledonia:** G34964, G34981, G35009, G61026, G61222, G61224; **Chesterfield Atoll:** G30277, G30438, G30440, G38149, G38249, G58913–15; **Marshall Is.:** G33145, G37957, G37965, G37967, G37972, G37978, G37982, G47228–29, G56175–78, G57286–87; **Kiribati:** G33108–09, G54808–16, G54819, G54949–52, G54975–76, G54987, G54991; **Fiji:** G33295, G33298, G33300; **Samoa:** G33296–97, G33299, G34723, G34728, G34749, G34869, G34877, G36641, G36645, G41190–91, G43457, G43458, G43466; **Niue:** G54998, G35854, G36132, G54515–22, G54678; **Line Is.:** G59692; **Cook Is.:** G35696, G35700, G35708, G35710, G35726, G35848, G36057–58, G36062–64, G46691–93, G49330; **French Polynesia:** G35545, G53577–80, G53589, G58768; **Tahiti:** G33082, G53586, G54699, G58966, G58969; **Austral Is.:** G35988; **Pitcairn Is.:** G32873, G35746–47, G43827, G54622–27, G54646.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.4–3.0 mm; inner diameter 0.5–1.1 mm; primary septa to ¾ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: laterally flattened.

Taxonomic note. *A. diomedeae* is removed from the synonymy of *A. nasuta* and confirmed as a synonym of *A. listeri* (see note under *A. listeri*).

Further literature: Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

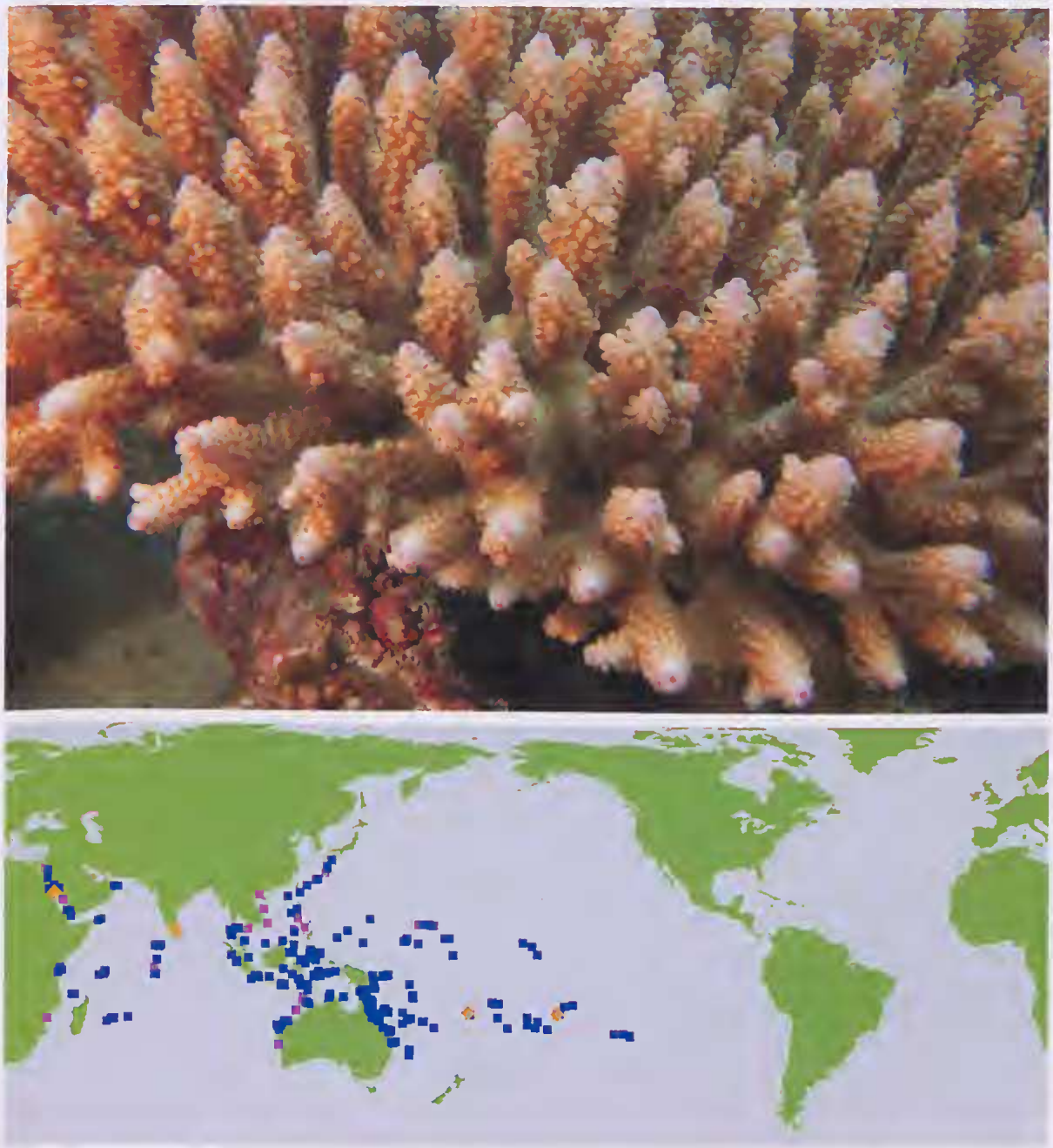


FIG. 68. *Acropora nasuta*, G59807, Ari Atoll lagoon, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora palmata (Lamarck, 1816)

(Fig. 69)

Madrepora palmata Lamarck, 1816: 278.
Madrepora flabellum Lamarck, 1816: 279.
Madrepora cornuta Duchassaing & Michelotti, 1861: 32.
Madrepora thomasiana Duchassaing & Michelotti, 1861: 32.
Madrepora perampla Horn, 1861: 435.

Type locality. 'American Ocean' (holotype NMHN).

MTQ Holdings. Bahamas: G54475, G54496–98; **Mexico:** G48424; **USA:** G49995–97, G54490–95; **Venezuela:** G51965, G51966; **Virgin Is.:** G33173–75, G40918.

Species group: *cervicornis*.

Description. ***Colony outline:*** indeterminate, predominantly elkhorn. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.5–2.3 mm; inner diameter 0.7–1.6 mm; primary septa to ¾ R. ***Radial corallites:*** large; two synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulo-costate, on radials: costate; spinule shape: single point.

Further literature. Van Oppen *et al.* (2000), Vollmer & Palumbi (2002), Gardner *et al.* (2003), Wallace (2012).

FIG. 69. *Acropora palmata,* Florida, United States (photo: E. Turak). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora palmerae Wells, 1954

(Fig. 70)

Acropora palmerae Wells, 1954: 410, p1. 113 figs 1–3.
Acropora minuta Veron, 2000, vol. 1: 210; 2002: 42–43, figs 74–76.

Type locality. Bikini Atoll, Marshall Islands (holotype NMNH-SI).

MTQ Holdings. Seychelles: G59475; **Mauritius:** G33204; **Rodriguez:** G33226; **Thailand:** G55892 **Indonesia:** G49361, G55796 HOLOTYPE of *A. minuta* Bali; G49359–60, G59080 Alor; **Australia:** G64322 West; G30216–17 Great Barrier Reef; G30209–15, G30218 South-East; **Guam:** G53635; **Marshall Is.:** G33130; **Niue:** G36020; **Cook Is.:** G35694, G35733, G35839, G36069, G36070.

Species group: *robusta*.

Description. ***Colony outline:*** indeterminate, predominantly encrusting. ***Branches:*** tertiary branching order absent; length: if present, <25 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.1–2.8 mm; inner diameter 0.9–1.3 mm; primary septa to ½ R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Taxonomic note. *Acropora minuta* is placed in synonymy with *A. palmerae* after comparing the holotype G55796 with specimens G33276, G49361, G55892, G59080 and G59475. The very small corallites noted on the *A. minuta* specimen represent a variation found in parts of coralla in *A. palmerae* specimens. In this species, corallite shape, size and number per unit area vary greatly, a phenomenon seen also at the base of branches in some other species in the *A. robusta* group, for example in *A. robusta* itself.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2002).

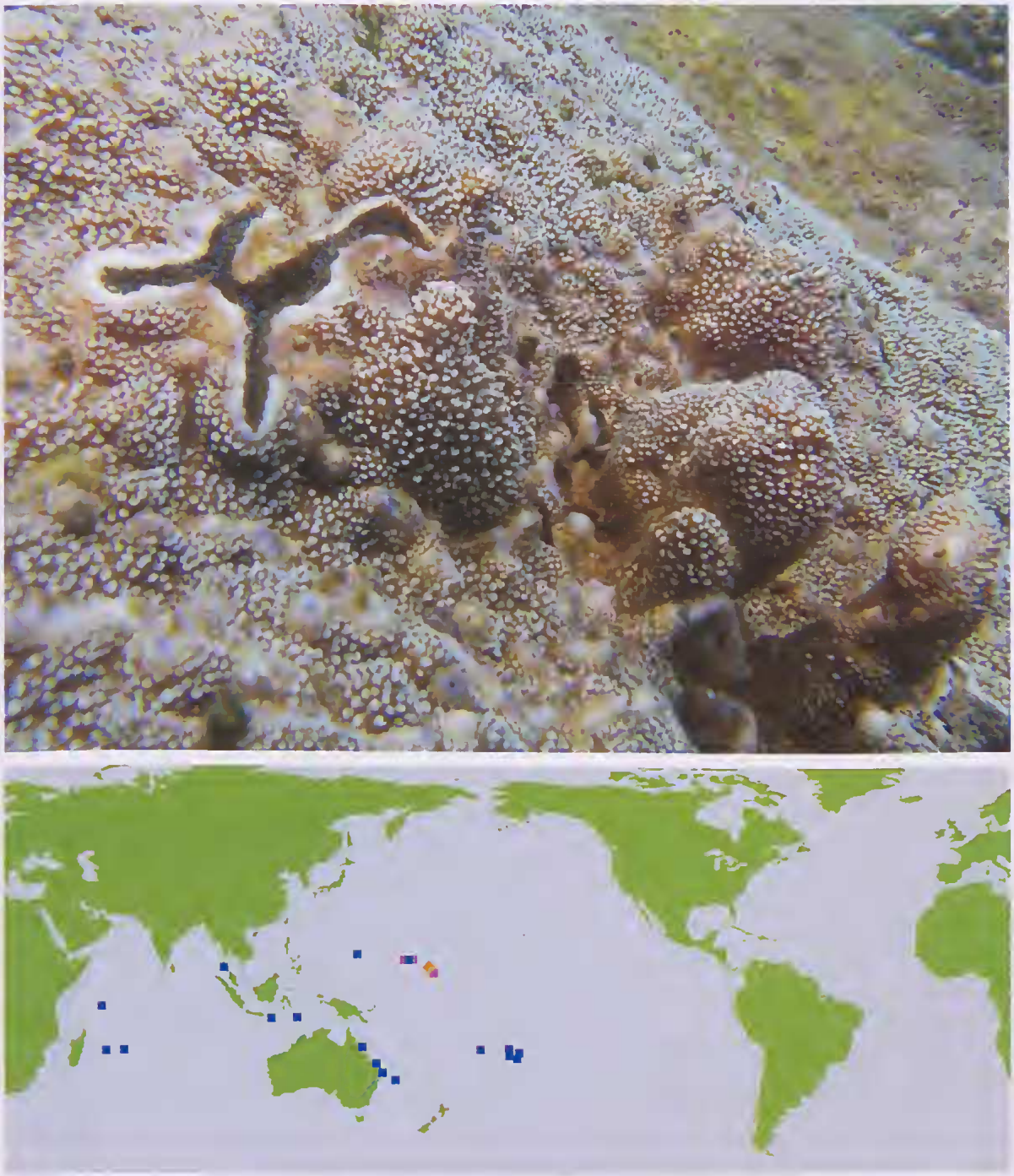


FIG. 70. *Acropora palmerae*, G59474, Seychelles, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora paniculata Verrill, 1902

(Fig. 71)

Acropora paniculata Verrill, 1902: 259, pl. 36D figs 7, 10, 10A, pl. 36E fig. 5.

Type locality. uncertain (holotype (fragment) YPM).

MTQ Holdings. Red Sea: G51165 Egypt; **Mayotte:** G63250–54, G63353–59 **Maldives:** G60288, G60321, G60326, G60329–30, G60335–36, G60342–45, G60348–49, G60356, G60361, G60364, G60367, G60371, G61619, G61628–30; **Chagos:** G51364; **Malaysia:** G54994; **Indonesia:** G50670, G50679 Bali; G50662–69 Alor; G54437 Lomblen; G50660–61 Lombok; G54134, G54183, G54435–36, G54547 Tukangbesi Islands; G50935 Taka'bonerate; G50677–78 Kalimantan; G50657–59, G50671–76, G50936, G54174–76 Sulawesi; G52418, G54177–82 Halmahera; G48681, G50654–56, G58898 Banda Sea; G60727, G60731, G60735–36, G61002, G61066, G61275, G57108 Irian Jaya; **Australia:** G41148 West; G28603, G28605–16, G28622–24, G57992, G58106, G60536, G60580, G63786 Great Barrier Reef; G28597–600, G28604, G28617–21, G39836, G57871, G63787–91, G63793, G63816, G63826, G64785, G64801 Coral Sea; **South China Sea:** G52339–41; **Palau:** G56628; **Papua New Guinea:** G35632, G53519–25, G53529–37, G54555–56, G54653–56, G59703, G61429 North: G41148 Timor Sea; **Micronesia:** G59291, G59376, G59650, G62495–96, G62565–67, G62569, G62592 Pohnpei; **Solomon Is.:** G55564–65, G58530, G58565, G58568; **New Caledonia:** G61016; **Marshall Is.:** G33129, G56158, G57234, G57235; **Kiribati:** G54962; **Samoa:** G43459; **Johnston Atoll:** G40986; **French Polynesia:** G44036.

Species group: *hyacinthus*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.2–1.9 mm; inner diameter 0.4–0.8 mm; primary septa to ½ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: elongate lip; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: blunt irregular.

Further literature: Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

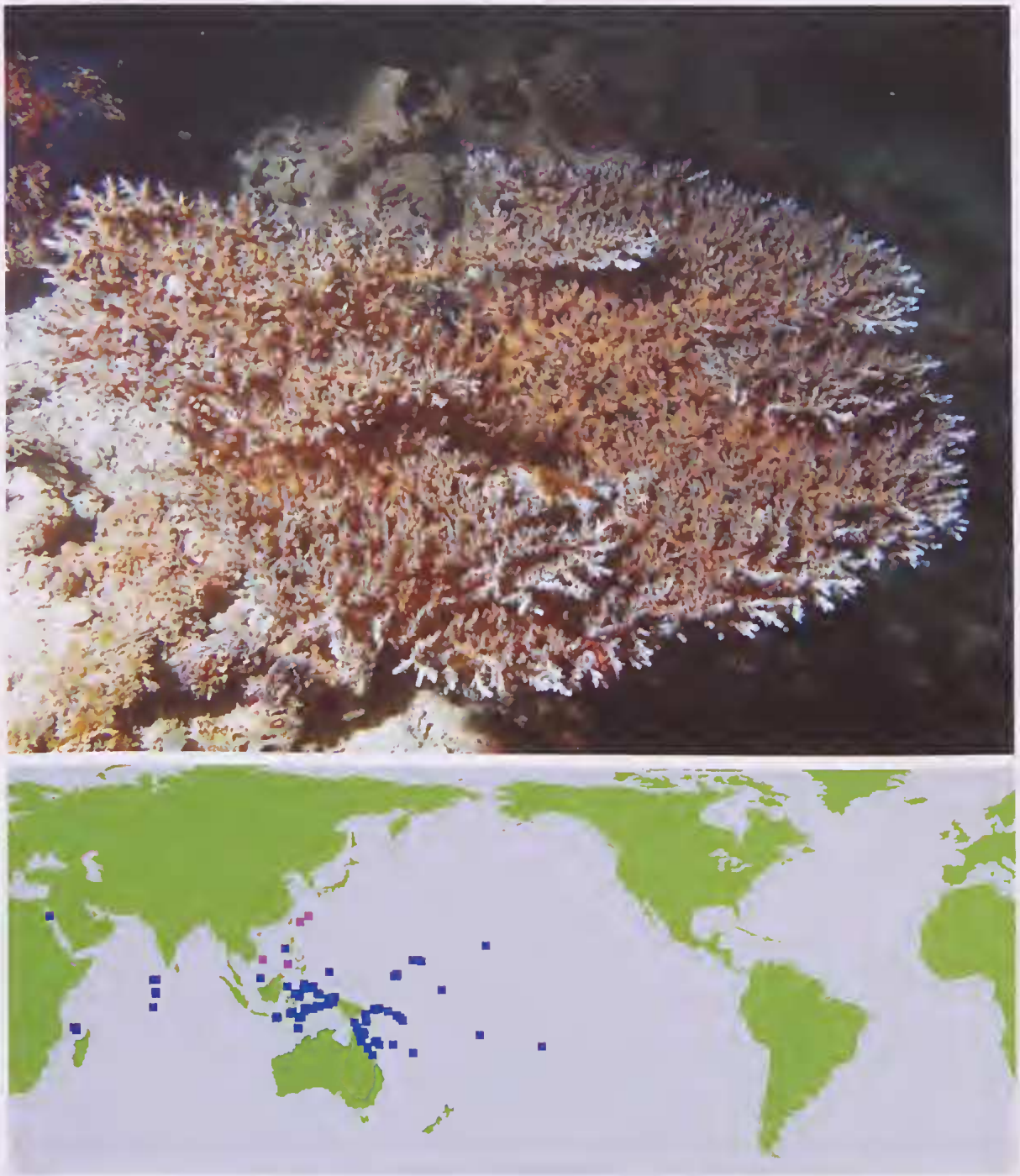


FIG. 71. *Acropora paniculata*, G63252, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora papillare Latypov, 1992

(Fig. 72)

Acropora papillare Latypov, 1992: 121, fig. 6.
Acropora indiana Wallace, 1994: 963, fig. 4.

Type locality. Vietnam (holotype IMBR).

MTQ Holdings. G46445 HOLOTYPE of *A. indiana* from Rowley Shoals, Western Australia; G39763, G46444 PARATYPE of *A. indiana*, Western Australia; G47037 PARATYPE of *A. indiana* Ambon; G46415–18 PARATYPES of *A. indiana* Banda Sea; **Indonesia:** G48566–67 Alor; G48561–62 Flores; G48620 Semau; G51577, G55459, G57648 Sulawesi; G48563–65, G48621 West Timor; **Australia:** G38371, G39765–67, G40792, G41154, West; G48368, G48400, G58244–50, G58270–76, G58339–49, G58377–79, G62289–92, G63938 Great Barrier Reef.

Species group: *aspera*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 2.7–3.4 mm; inner diameter 0.8–1.6 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; two synapticular rings; two sizes; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

FIG. 72. *Acropora papillare*, G62289, Orpheus I., North Queensland, Australia, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora pharaonis (Milne Edwards & Haime, 1860)

(Fig. 73)

Madrepora pharaonis Milne Edwards & Haime, 1860: 143.
Madrepora ehrenbergi Milne Edwards & Haime, 1860: 143.
Madrepora pustulosa Milne Edwards & Haime, 1860: 144.
Madrepora arabica Milne Edwards & Haime, 1860: 145.
Madrepora microcyathus Klunzinger, 1879: 22, pl. 3 fig. 3, pl. 4 fig. 19, pl. 9 fig. 17.
Madrepora spinulosa Klunzinger, 1879: 23, pl. 2 fig. 8, pl. 4 fig. 11, pl. 9 fig. 18.
Madrepora scandens Klunzinger, 1879: 26, pl. 2 fig. 6, pl. 3 fig. 2, pl. 4 fig. 3.
Madrepora subtilis Klunzinger, 1879: 28, pl. 2 fig. 2, pl. 4 fig. 4, pl. 9 fig. 22.

Type locality. Saudi Arabia, Red Sea (neotype MTQ).

MTQ Holdings. NEOTYPE G54717; **Red Sea:** G54855, G57772, G57781, G57793 Egypt; G54724–25 Sudan; G41155, G54714–16, G54718–23, G55188–89, G55237–43, G55265–68, G62980 Saudi Arabia; G54726, G54827 Yemen.

Species group: *muricata*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.5–2.6 mm; inner diameter 0.6–1.5 mm; primary septa to ¼ R. ***Radial corallites:*** medium; two synapticular rings; two sizes; inner wall not developed; shape: nariform; openings: oval-rounded; primary septa absent. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: blunt irregular.

Further literature. Sheppard & Sheppard (1991), Wallace (1999), Veron (2000), Pillay *et al.* (2002).

FIG. 73. *Acropora pharaonis,* Red Sea (photo: L. Devantier). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora pichoni Wallace, 1999

(Fig. 74)

Acropora pichoni Wallace, 1999: 306, pl. 84.

Type locality. Kimbe Bay, Papua New Guinea.

MTQ Holdings. HOLOTYPE G53270, PARATYPES G39799–802, G53269, G53271, Papua New Guinea; PARATYPE G48345 Truk, Micronesia; **Indonesia:** G56512–14, G57047, G58635 Sulawesi; G63164–65 Halmahera; G60746–48 Irian Jaya; **Papua New Guinea** G61428; **Micronesia:** G59276–79, G59294–95, G59654, G62432–47, G62596, G62611, G62615–17, G62791 Pohnpei; **Solomon Is.:** G57923.

Species group: *elegans*

Description. ***Colony outline:*** determinate, predominantly plate. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.4–2.4 mm; inner diameter 0.5–0.9 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Veron (2000), Turak & DeVantier (2011).

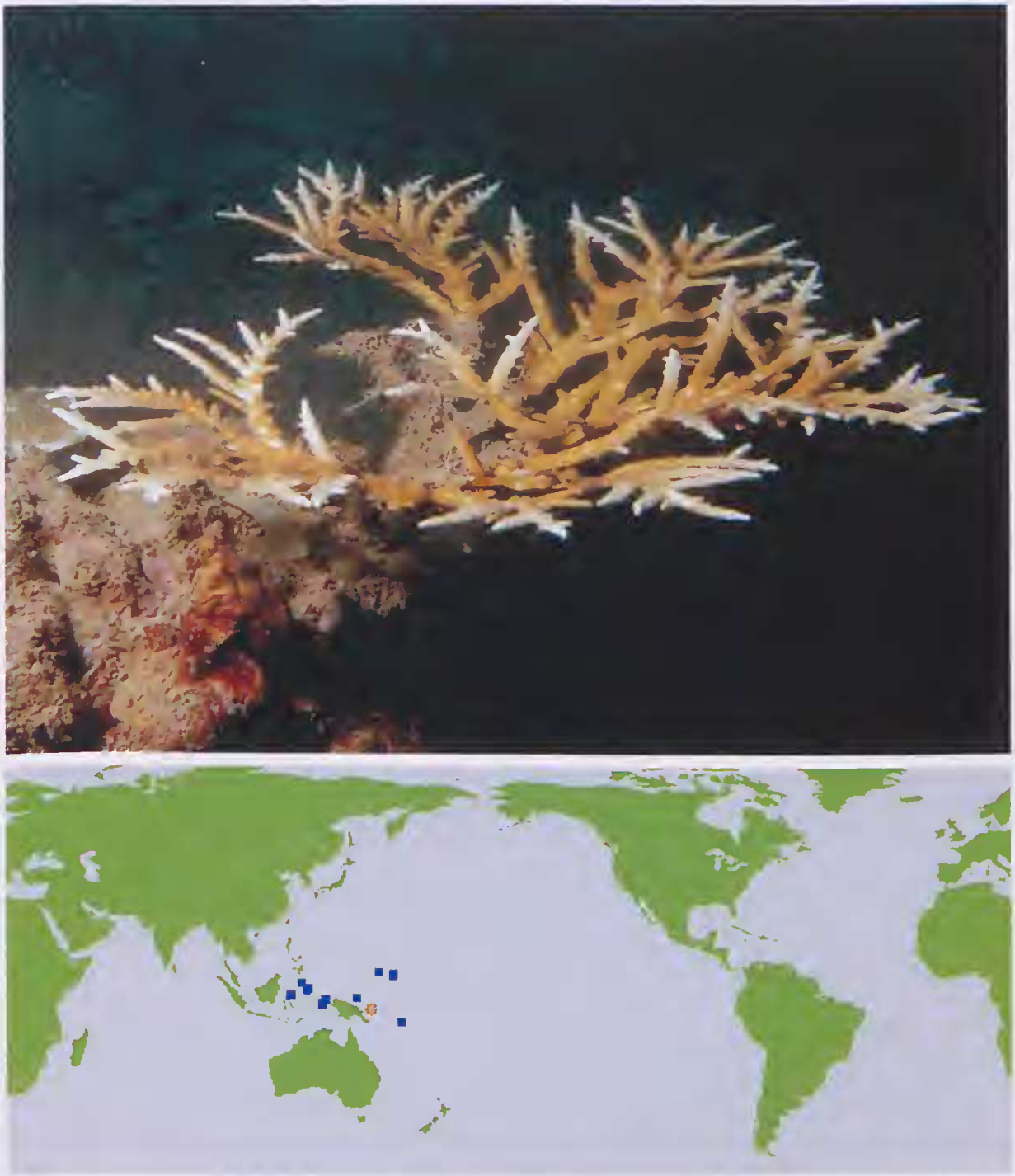


FIG. 74. *Acropora pichoni*, G62435, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora plumosa Wallace & Wolstenholme, 1998

(Fig. 75)

Acropora plumosa Wallace & Wolstenholme, 1998: 364, fig. 160.

Type locality. Talatakoh I., Togian Is., Indonesia.

MTQ Holdings. HOLOTYPE G49733, PARATYPES G49735, G49737 Indonesia; **Indonesia:** G50934 Taka' bonerate; G49736 Kalimantan; G49734 Sulawesi; G52420, G52421 Halmahera; **Palau:** G56882, G56890, G56895; **Papua New Guinea:** G53453–59, G54651–52; **Micronesia:** G59252 Pohnpei; **Solomon Is.:** G58581.

Species group: *plumosa*.

Description. ***Colony outline:*** determinate, predominantly plate. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.2–2.1 mm; inner diameter 0.6–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: blunt irregular.

Further literature. Wallace (1999), Veron (2000).

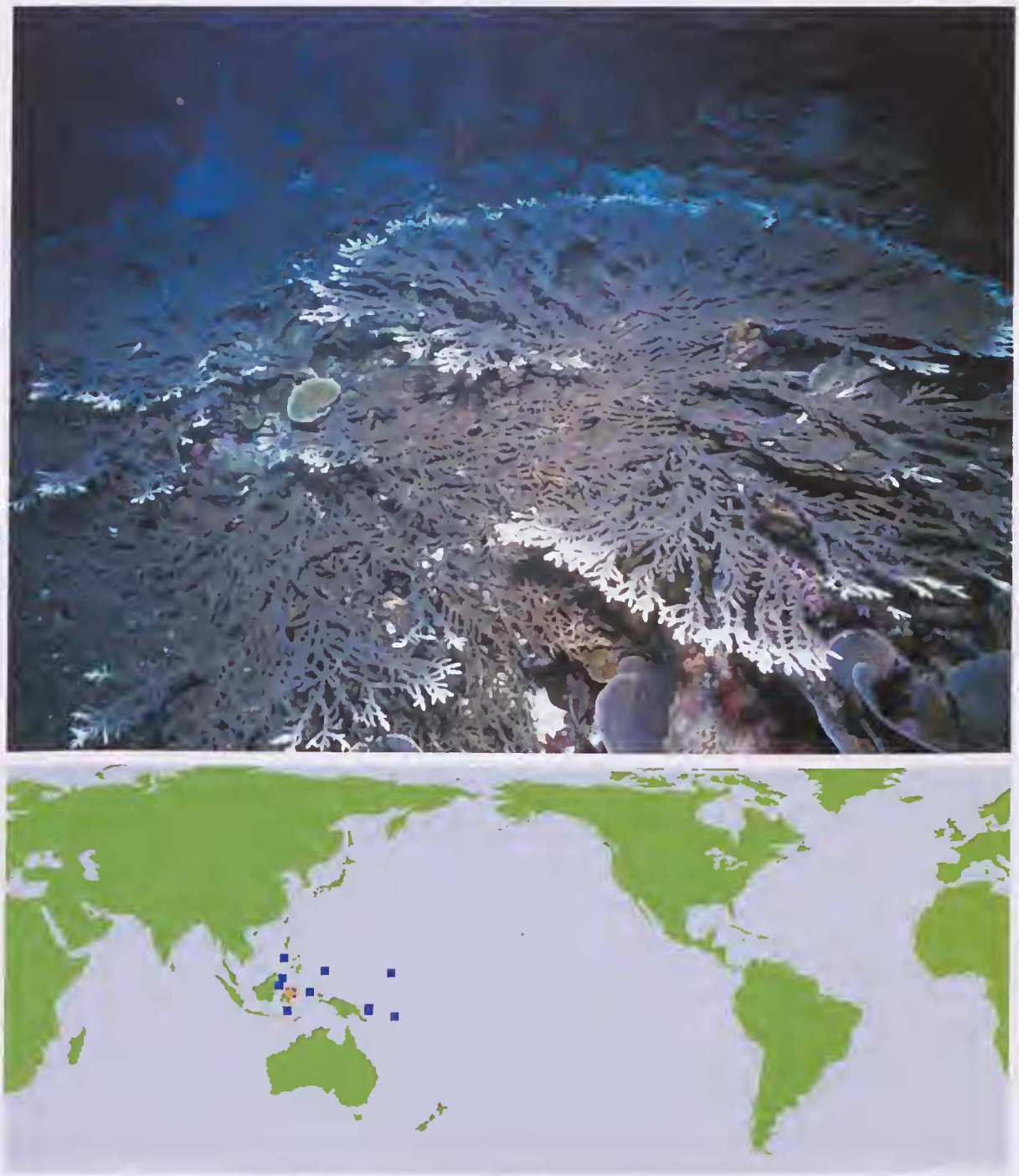


FIG. 75. *Acropora plumosa*. Indonesia, 1999 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora polystoma (Brook, 1891)

(Fig. 76)

Madrepora polystoma Brook, 1891: 466; 1893: 112, pl. 19 fig. A.

Acropora massawensis von Marenzeller, 1907: 54, pl. 17 figs 49–50.

Type locality. Mauritius (holotype NHM).

MTQ Holdings. Red Sea: G55259 Saudi Arabia; G54851–52 Yemen; **Maldives:** G59759, G60375; **Thailand:** G54838, G59341; **Malaysia:** G57759; **Indonesia:** G59204 Java; G50539, G50541 Bali; G43812–14 Taka'bonerate; G39817, G50385–86, G50889 Kalimantan; G47253, G47552–56, G49348, G50382–84, G50540, G55430 Sulawesi; G52419 Halmahera; G46843 Banda Sea; **Australia:** G61679 West; G27878–83, G28293–94, G28296–301, G32472, G34140, G39940–41, G39945–46, G45811, G47622, G48309, G48323, G48329, G51098–104 Great Barrier Reef; G47075, G58430, G64975 South-East; G57641, G60553 Coral Sea; **South China Sea:** G52224; **Japan:** G47744–46; **Palau:** G60207; **Papua New Guinea:** G53425–27; **Louisiade Archipelago:** G54407; **Micronesia:** G62406–09 Pohnpei; G62737–40 Kosrae; **Solomon Is.:** G58531, G58575, G58998, G59003; **New Caledonia:** G34989; **Chesterfield Atoll:** G38243; Samoa: G43475, G54271, G54272; Niue: G54669.

Species group: *robusta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.4–4.0 mm; inner diameter 0.8–1.5 mm; primary septa to ¾ R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

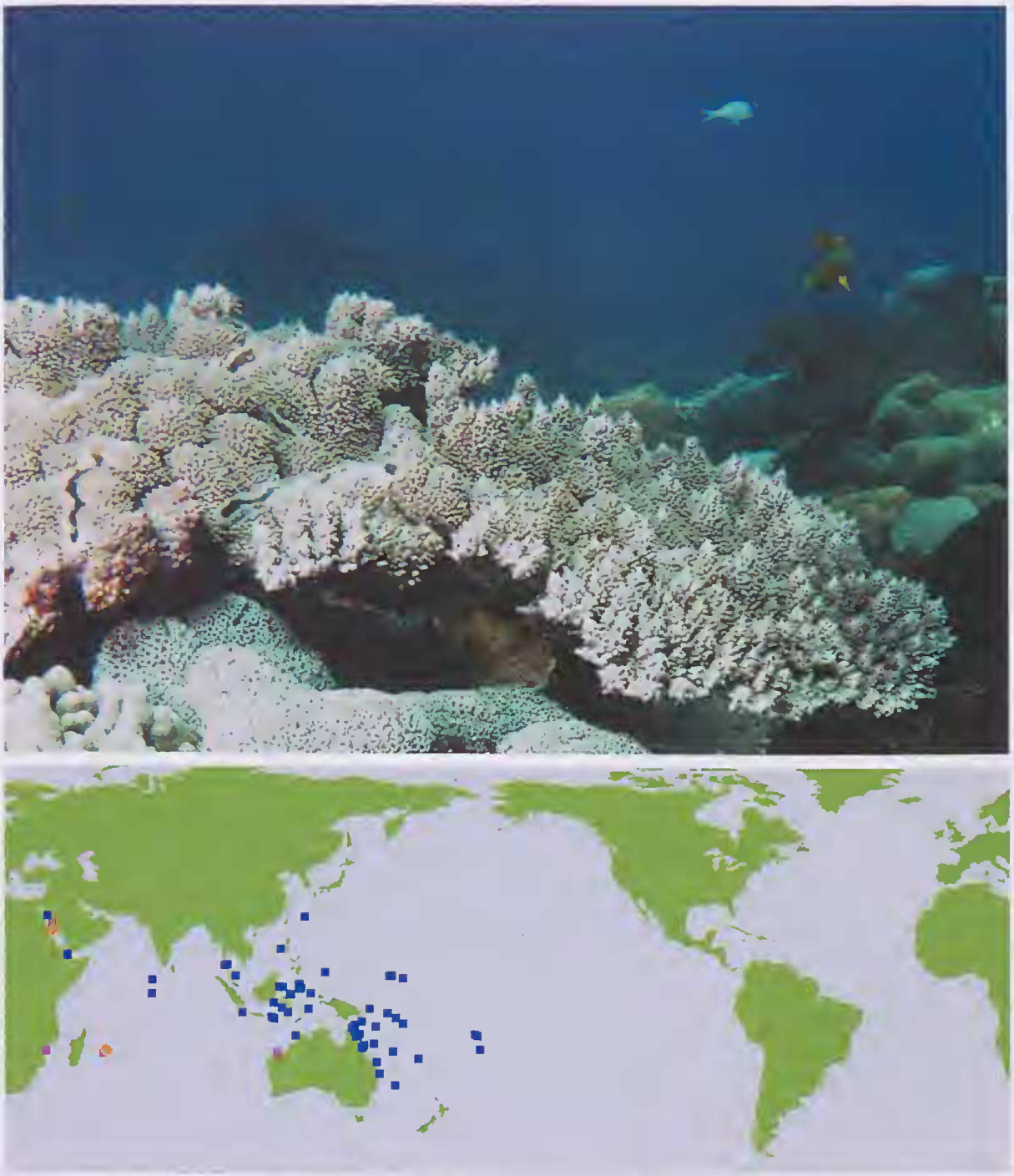


FIG. 76. *Acropora polystoma*, G64957, Flinders Reef, East Australia, 2011 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora prolifera (Lamarck, 1816) hybrid entity

(Fig. 77)

Madrepora prolifera Lamarck, 1816: 281.
Madrepora ethica Duchassaing & Michelotti, 1861: 32.

Type locality. Southern Ocean (holotype MNHN).

MTQ Holdings. Bahamas: G54473–74, G54499–500; **Mexico:** G48426–28; **Venezuela:** G51967–70; **Virgin Is.:** G33176.

Species group: *cervicornis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.4–3.0 mm; inner diameter 0.6–1.5 mm; primary septa to ½ R. ***Radial corallites:*** large; two synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulo-costate, on radials: costate; spinule shape: single point.

Taxonomic note. This is now recognised as a hybrid. Although this morphological 'species' is recognisable based on the skeleton, it has been demonstrated to occur only in the presence of the other two Caribbean species, as an F1 hybrid. The appearance of this hybrid has differing characteristics depending on which species provide the eggs or sperm (Volmer and Palumbi, 2002, Van Oppen *et al.*, 2000). Because the specimens do not belong directly to either of the parent species, we are retaining the separateness of the specimens by listing them here.

Acropora proximalis Veron, 2000

Acropora proximalis Veron, 2000, vol. 1: 278; 2002: 50–51, figs 93–97.

Type locality. Flores, Indonesia.

MTQ Holdings. HOLOTYPE: G55802.

Species group: not determined.

Description. See Veron (2002).

Taxonomic note. The holotype specimen of this species has some similarity to *Acropora kirstyae*, but without further material no further comment on synonymy can be made.

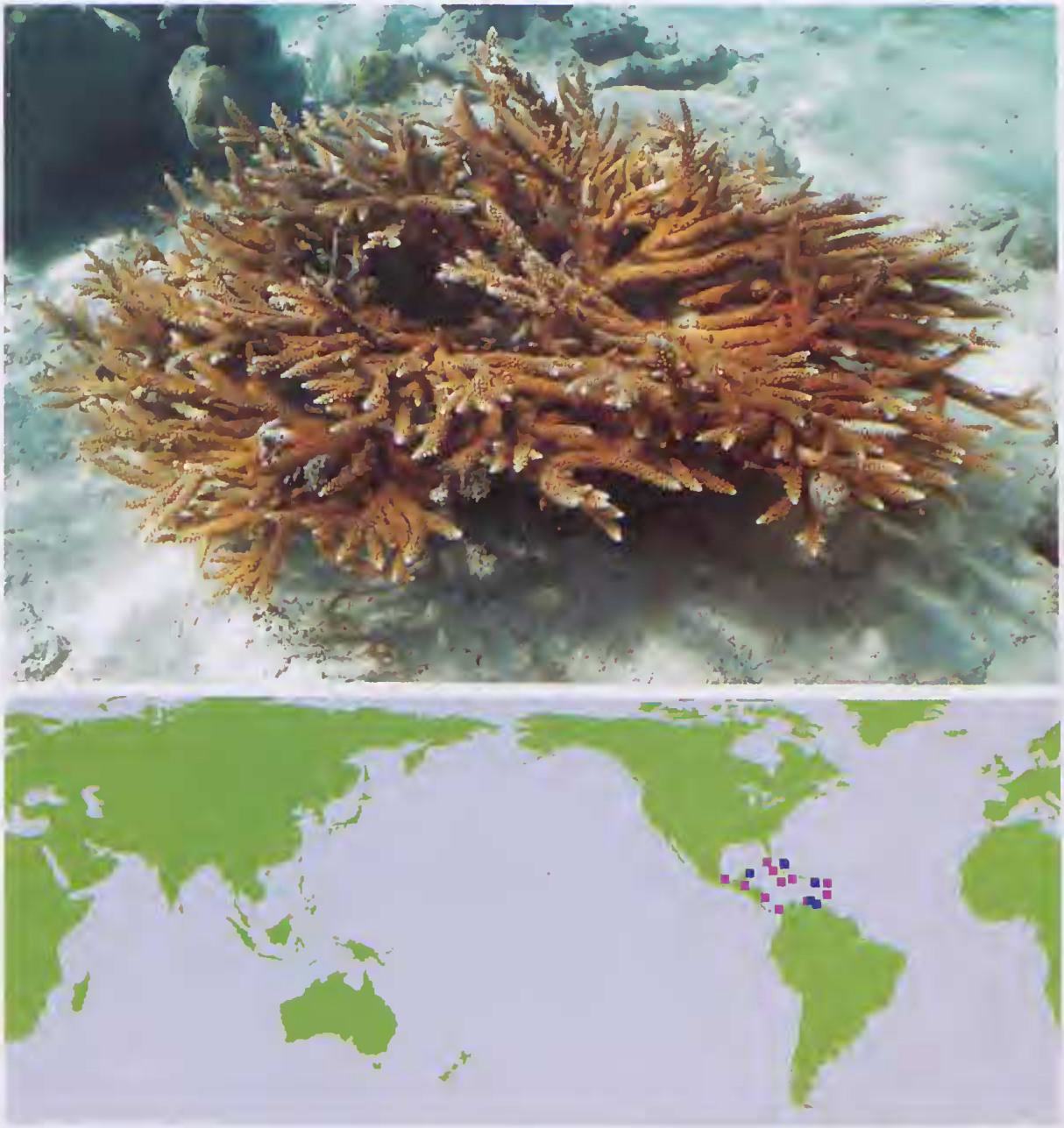


FIG. 77. *Acropora prolifera*, British Virgin Islands, Caribbean, 2004 (photo: C. Sheppard). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora pruinosa (Brook, 1893)

(Fig. 78)

Madrepora pruinosa Brook, 1893: 72, pl. 34 fig. B.

Type locality. Korea Straits (lectotype NHM).

MTQ Holdings. Hong Kong: G61791–94; **Japan:** G62835, G62894–03.

Species group: not determined.

Description. ***Colony outline:*** indeterminate, predominantly caespitose to arborescent. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 2.1–3.1 mm; inner diameter 1.1–1.6 mm; primary septa 2/3 to 1 R. ***Radial corallites:*** small; one size or graded; inner wall not developed; shape: appressed tubular; openings: round; primary septa: 2/3 to 1 R. ***Coenosteum:*** same on and between radials: reticulate; shape: single point.

Taxonomic note. This species was not included in Wallace (1999) as no specimens were available. To date, its distribution records are limited to Korea, Japan and Hong Kong.

Further literature: Veron & Nishihira (1995), Veron (2000), Chan *et al.* (2004), Nakamura *et al.* (2004}, Nomura & Mezaki (2005).

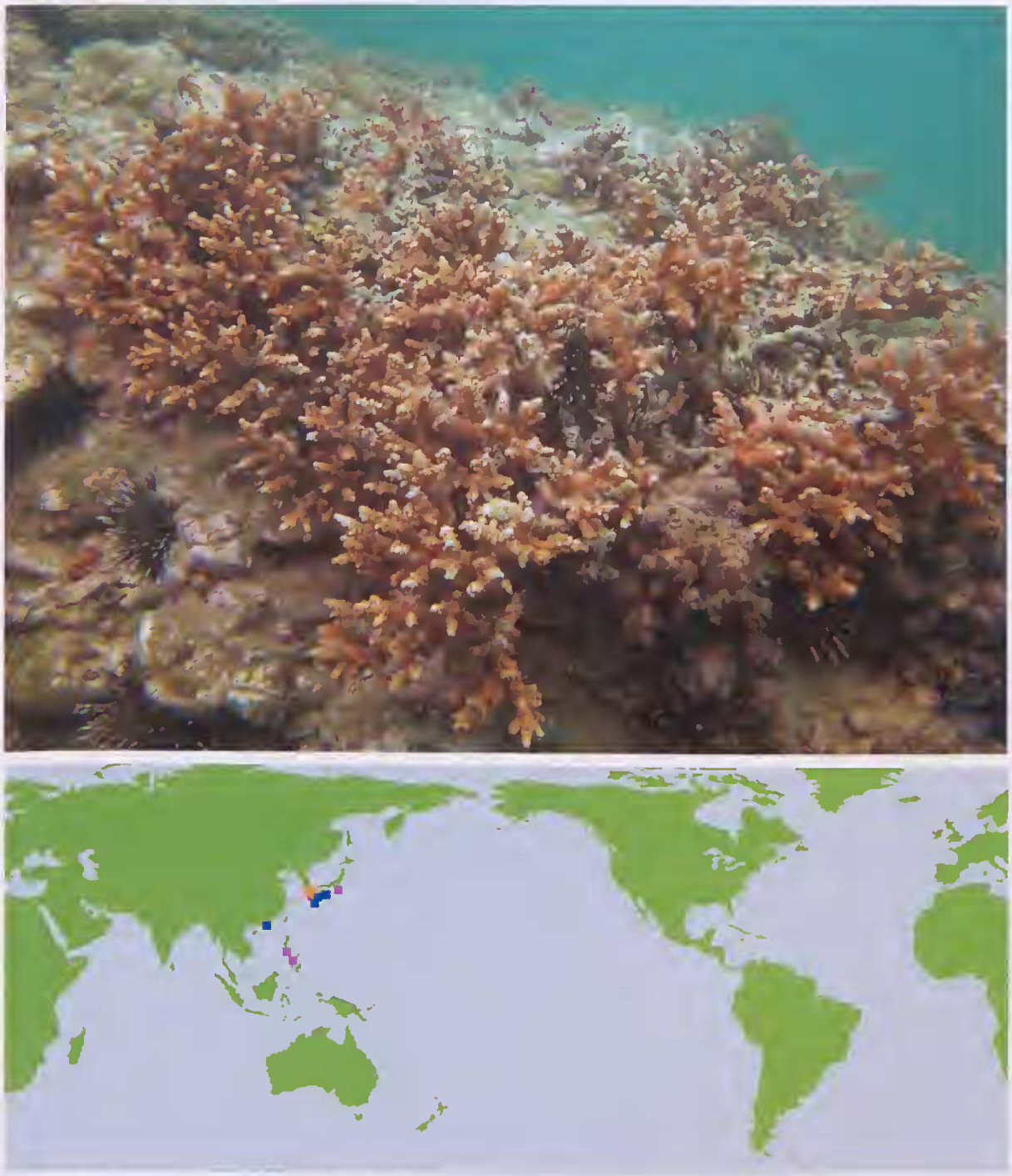


FIG. 78. *Acropora pruinosa*, G62898 Fukuro Bay, Kushimoto, Japan, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora pulchra (Brook, 1891)

(Fig. 79)

Madrepora pulchra Brook, 1891: 452; 1893: 44, pl. 28 figs A–C.

Type locality. Keeling Island (Cocos Keeling) (holotype NHM).

MTQ Holdings. Seychelles: G47930, G59561; **Rodriguez:** G33216; **Maldives:** G59760–61, G59767, G59920, G61067; **Sri Lanka:** G55579, G56343–44; **Thailand:** G32778, G59401; **Malaysia:** G52614 mainland and islands; G53932 Sabah; **Indonesia:** G32849 Java; G46703, G50531, G59181 Bali; G49295 Alor; G47487 Lombok; G50742–44 Seribu Is; G50774, G62721 Ambon; G48624 Flores; G39807, G49299–300 Kalimantan; G35810, G47250–52, G47539, G47543, G49296–98, G50984–85, G55422–24 Sulawesi; G51725–29, G51746–47 Halmahera; G46844, G58946 Banda Sea; **Australia:** G40791, G40848, G55059–61, G61082, G61682 West; G54739 North; G27016, G27023, G27059–60, G28256–57, G28263–64, G28884, G28886–87, G28889–91, G28893, G32466–67, G35020, G37358–59, G37392–93, G39773, G40898–99, G40921–22, G40995, G46033–35, G47294, G47644–50, G48355–57, G48366, G48373–74, G48378, G52058, G56505–06, G57516, G58038, G58224–25, G58269, G58278, G58380, G59020, G62923–28, G64677 Great Barrier Reef; G28259, G28265, G28888, G58492, G58851–52, G58858, G62956, G62963 South-East; G28261, G28883, G33500, G33749 Coral Sea; **Japan:** G38038, G38061; **Taiwan:** G45785, G47618, G58026–27; **Guam:** G40734; **Papua New Guinea:** G35918, G52945, G53095–04, G53557 North: G40848 Timor Sea; **Micronesia:** G40762 Yap; G40805, G40808, G62478 Pohnpei; G62728–29 Kosrae; **Solomon Is.:** G52599, G58584; **New Caledonia:** G33100, G34968, G35003, G35010; **Marshall Is.:** G33149, G57233; **Fiji:** G40935; **Samoa:** G33317, G34873, G41179–89; **French Polynesia:** G58654; **Tahiti:** G54693.

Species group: *aspera*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 1.8–3.5 mm; inner diameter 0.6–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; two sizes; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009).

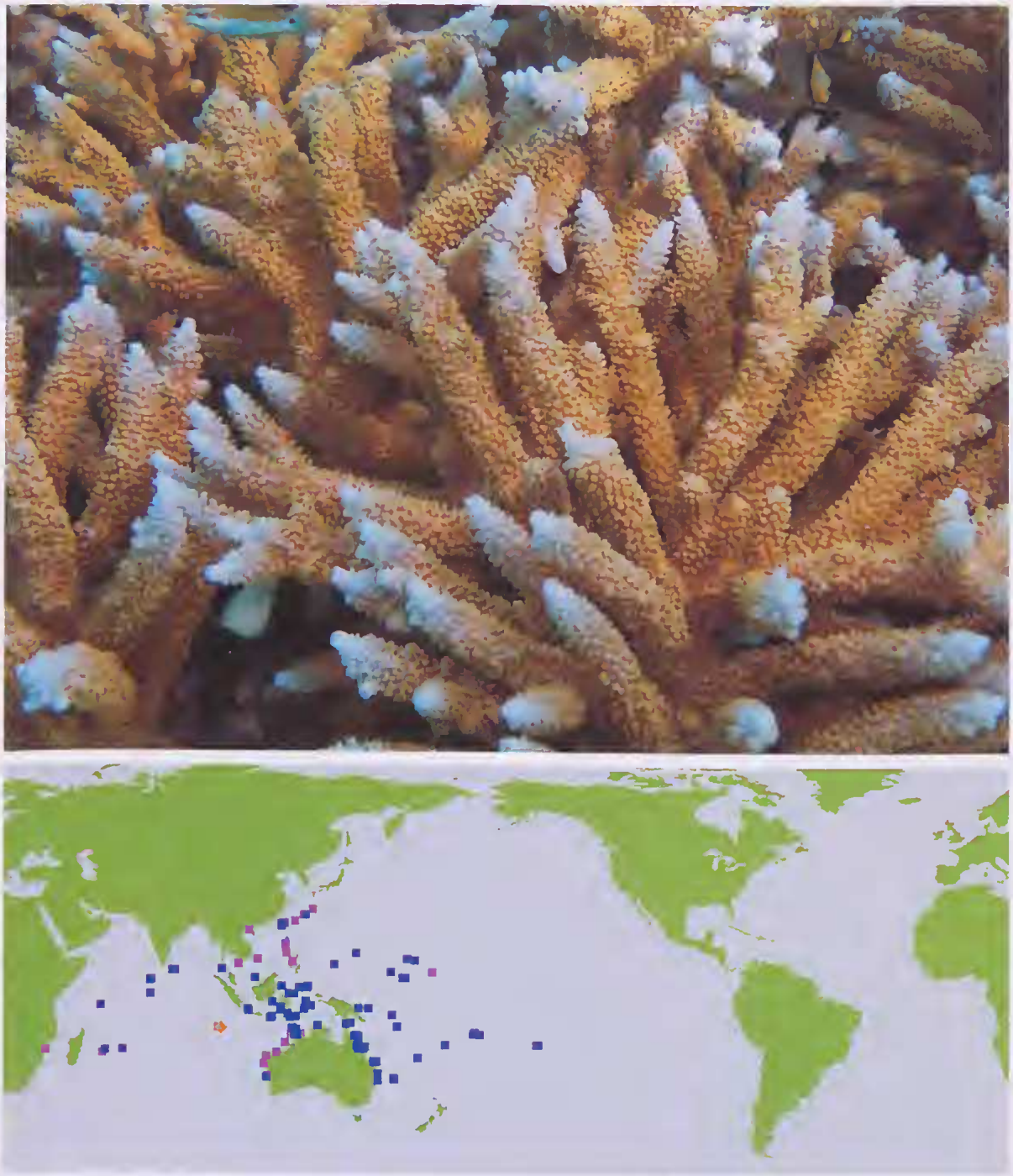


FIG. 79. *Acropora pulchra*, G61067 Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora retusa (Dana, 1846)

(Fig. 80)

Madrepora retusa Dana, 1846: 462.
Acropora pocilloporina Wallace 1994,: 962, fig. 2.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. G44042 HOLOTYPE of *A. pocilloporina*, G35534, G35537–38 PARATYPES of *A. pocilloporina* from Moorea, French Polynesia; G35947, G36077 PARATYPES of *A. pocilloporina* from the Cook Is.; **Seychelles:** G47958; **Aldabra:** G36936; **Mauritius:** G51879, G51881–82, G54531–32; Madagascar: G62211; **Palau:** G60197; **Guam:** G63328; **Micronesia:** G59286, G62421–23, G62612–13, G62630, G62687 Pohnpei; G62734–35, G62750–51 Kosrae; **Niue:** G55000–01, G54999, G36031, G36090, G36100, G39528, G49015–17; **Cook Is.:** G35851, G35926, G36096–99, G36113, G36126; **French Polynesia:** G35551, G56724–28, G58625–28, G58772; **Tahiti:** G54700; **Austral Is.:** G35840, G35842; G63146–47; **Pitcairn Is.:** G49064–68, G54643.

Species group: *humilis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.1–2.6 mm; inner diameter 0.7–0.9 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: open spinules; spinule shape: blunt irregular.

Further literature. Wallace (1999), Veron (2000), Pillay *et al.* (2002).

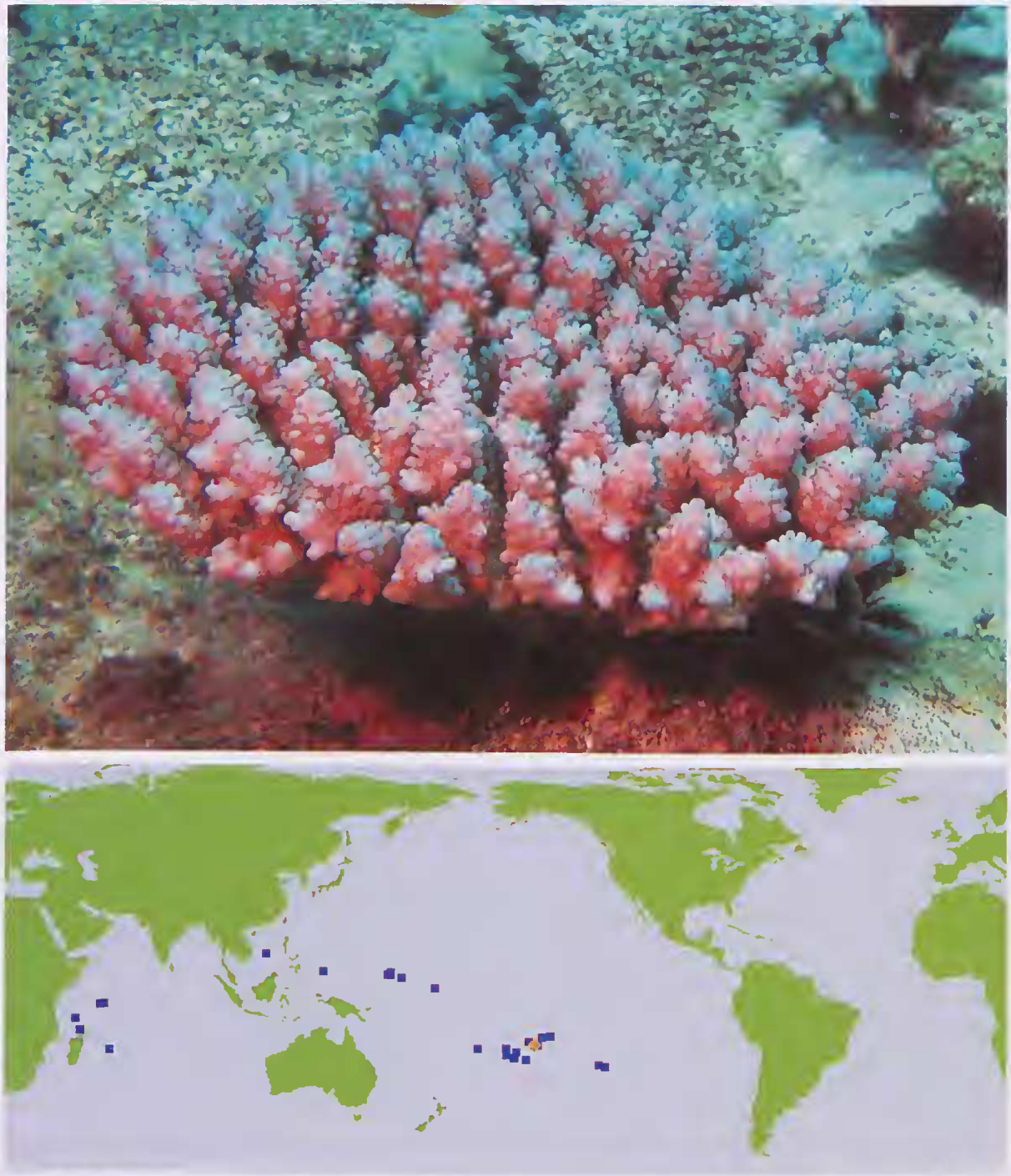


FIG. 80. *Acropora retusa*, G62613, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora robusta (Dana, 1846)

(Fig. 81)

Madrepora robusta Dana, 1846: 475, pl. 39 figs 3–3a, pl. 31 figs 3a–c.
Madrepora conigera Dana, 1846: 440, pl. 32 figs 1–1a.
Madrepora cyclopea Dana, 1846: 439.
Madrepora nobilis Dana, 1846: 481, pl. 40 fig. 3.
Madrepora paxilligera Dana, 1846: 452, pl. 34 figs 1–1a.
Madrepora cuspidata Dana, 1846: 485.
Madrepora ranalis Quelch, 1886: 150.
Madrepora pacifica Brook, 1891: 465; 1893: 39, pl. 30 fig. B.
Madrepora ambigua Brook, 1892: 451; 1893 p.70, pl. 8 fig. C.
Madrepora decipiens Brook, 1892: 456; 1893: 51, pl. 14 figs B–D.
Madrepora smithi Brook, 1893: 34, pl. 26 fig. B.
Madrepora brooki Bernard, 1900: 120.
Acropora pinguis Wells, 1950: 37, pl. 11 figs 1–2.
Acropora ponderosa Nemenzo, 1967: 57, pl. 20 figs 3–4.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Red Sea: G54946 Yemen; **Kenya:** G59734; **Mayotte:** G63199–201; **Seychelles:** G47918–20, G51855; **La Réunion:** G33212, G33227; **Maldives:** G52080, G59780–83, G59857–60; **Sri Lanka:** G55768; **Thailand:** G35951, G54841, G55960, G56074, G56129, G56132, G56062–63; **Malaysia:** G40200 Sabah; **Indonesia:** G58690, G47161, G48463–64, G48683 Sumatra; G49333–35, G51800 Bali; G50904–05, G50907 Nusa Tenggara; G48466–68, G48682 Alor; G47551 Lombok; G51812 Tukangbesi Islands; G50906 Taka'bonerate; G50749–50 Seribu Is; G36177, G36215, G47036 Ambon; G48465, G48684 Flores; G49337–41, G49720 Kalimantan; G47545–50, G49336, G50823 Sulawesi; G51801–03, G51809–11, G53681 Molucca Sea; G51804–08, G53682 Halmahera; G46995–7000 Banda Sea; G60999 Irian Jaya; **Australia:** G40852–53, G52651, G58959, G61669, G64324 West; G48101, G58973 North; G27507–08, G27510, G27512–14, G27787, G27789–91, G28019, G28024–25, G28067, G28173–74, G28180, G28182–83, G28840–41, G28843, G28919–20, G28922, G28947, G28949–51, G28953, G28955, G29047–48, G29050–51, G29053, G29055, G29853, G30206, G30417, G30420–21, G30811–14, G30816, G30818–20, G39943, G48371, G51106, G58251–52, G58359, G58381–82, G58403, G60229, G62912 Great Barrier Reef; G27223, G28020–21, G33191, G47072 South-East; G27509, G27511, G27786, G27788, G28178, G28181, G28846, G28921, G28952, G29046, G29052, G29054, G29056, G30821 Coral Sea; **South China Sea:** G37569, G52141–52, G52270–75, G52288, G52304–07; **Japan:** G47780, G48381, G62325–26; **Taiwan:** G45841; **Palau:** G36230, G60208; **Guam:** G36605, G40737; **Papua New Guinea:** G35625, G35905–06, G52786–90; **Louisiade Archipelago:** G33360, G35370; **Micronesia:** G40774 Yap; G62424–28, G62648 Pohnpei; G62760 Kosrae; **Solomon Is.:** G59004; **New Caledonia:** G34951, G34985, G58697, G58728; **Chesterfield Atoll:** G27505–06, G27515, G28022–23, G28066, G28068, G28842, G28844, G28923, G28948, G28954, G28956, G29113, G29854–55, G38164, G38166–67, G51242; **Marshall Is.:** G33133, G33199, G56167, G57297; **Kiribati:** G54798, G54801–02, G54820; **Fiji:** G34738, G34744, G34816; **Samoa:** G33308–10, G34745–48, G34750, G34771, G34774, G34883, G36632, G38984, G41230–35, G41294, G43494, G51214, G56020; **Niue:** G35838, G36024, G54680; **Line Is.:** G59697; **Cook Is.:** G35695; **Austral Is.:** G35837, G36067; **Pitcairn Is.:** G54628.

Species group: *robusta*.

Description. ***Colony outline:*** determinate, predominantly arborescent–table. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, tapering strongly; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.1–4.0 mm; inner diameter 0.5–1.5 mm; primary septa to ¾ R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002).

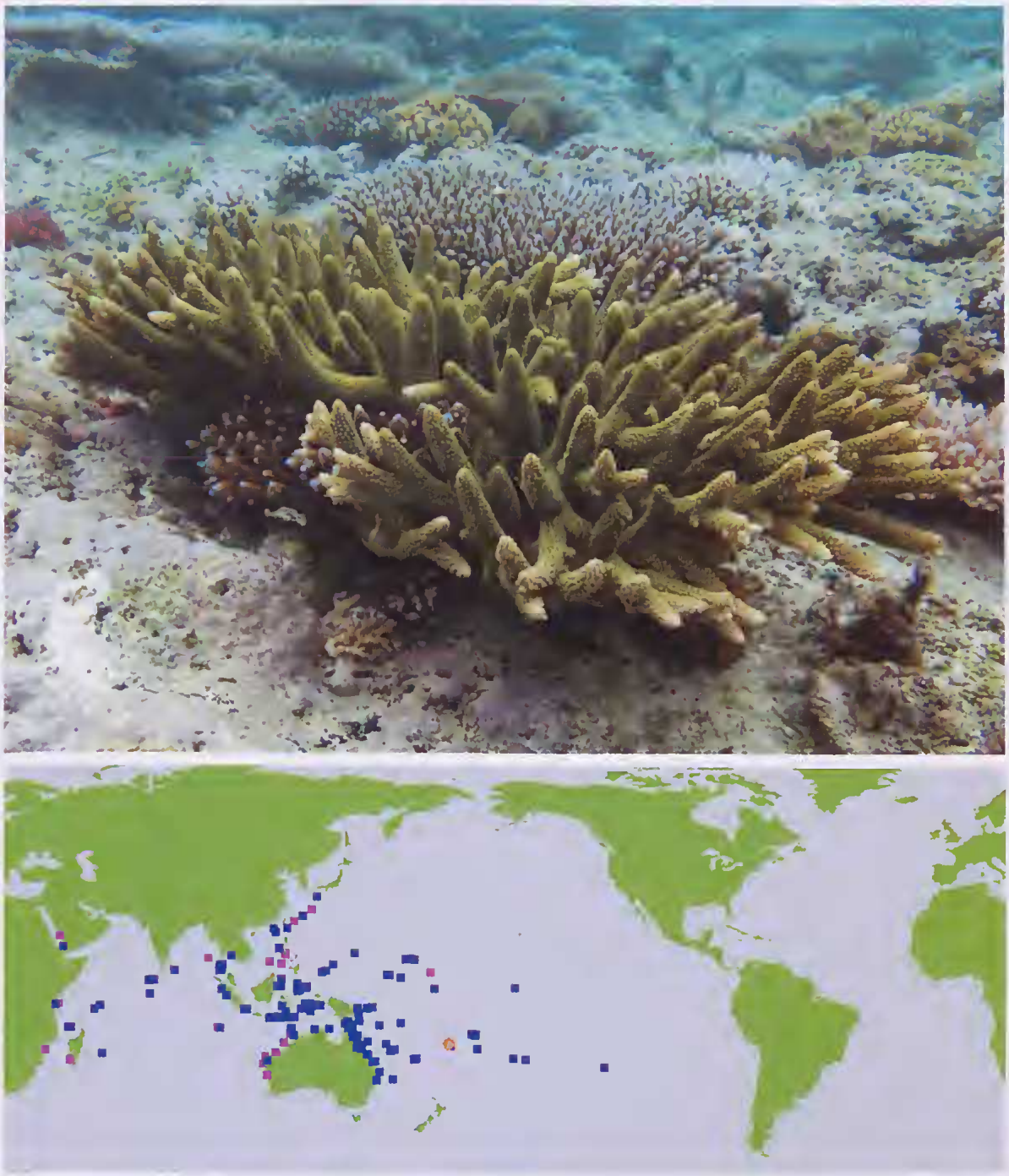


FIG. 81. *Acropora robusta,* Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora rongelapensis Richards & Wallace, 2004

(Fig. 82)

Acropora rongelapensis Richards & Wallace, 2004: 2, fig. 1.

Type locality. Rongelap Atoll, Marshall Islands.

MTQ Holdings. HOLOTYPE G57574, PARATYPES G57575–76 Marshall Islands; **Indonesia:** G58620–21, G61241–48; Sulawesi; G63108–09 Irian Jaya; **Micronesia:** G59246–48, G59259, G62366–68, G62614, G62625, G62688–91 Pohnpei.

Species group: *loripes*.

Description. ***Colony outline:*** Indeterminate, plate to arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 5–9.9 mm; axial dominated, tapering; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.2–1.9 mm; inner diameter 0.5–0.8 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; mixed sizes; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. The description of this species is expanded from the type description, following a finding of abundant colonies in Pohnpei, Micronesia (Wallace & Muir, unpublished).

FIG. 82. *Acropora rongelapensis*, G62689 Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora roseni Wallace, 1999

(Fig. 83)

Acropora roseni Wallace, 1999: 246, pl. 60.

Type locality. Aldabra, Seychelles (holotype MTQ).

MTQ Holdings. HOLOTYPE G36948, PARATYPE G36947 Seychelles; **Socotra:** G58522; **Seychelles:** G59457, G59459, G59576.

Species group: *aspera*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 2.9–3.7 mm; inner diameter 1.2–1.6 mm; primary septa to 1/3 R. ***Radial corallites:*** large; three synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature: Veron (2000).

FIG. 83. *Acropora roseni*, G59457, Seychelles, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora rudis (Rehberg, 1892)

(Fig. 84)

Madrepora rudis Rehberg, 1892: 41, pl. 4 fig. 9.

Type locality. Ceylon (Sri Lanka) (holotype NMB).

MTQ Holdings. Maldives: G60273; **Sri Lanka:** G55223–24, G55577–78; **Bangladesh:** G50567; **Thailand:** G37293, G37302, G55983–84, G56094–97, G61757; **Indonesia:** G47165–66 Sumatra.

Species group: *rudis*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 2.6–4.1 mm; inner diameter 0.6–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** very large; greater than three synapticular rings; one size or graded; inner wall developed; shape: rounded tubular; openings: oval-rounded; primary septa to ½ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: elaborate.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

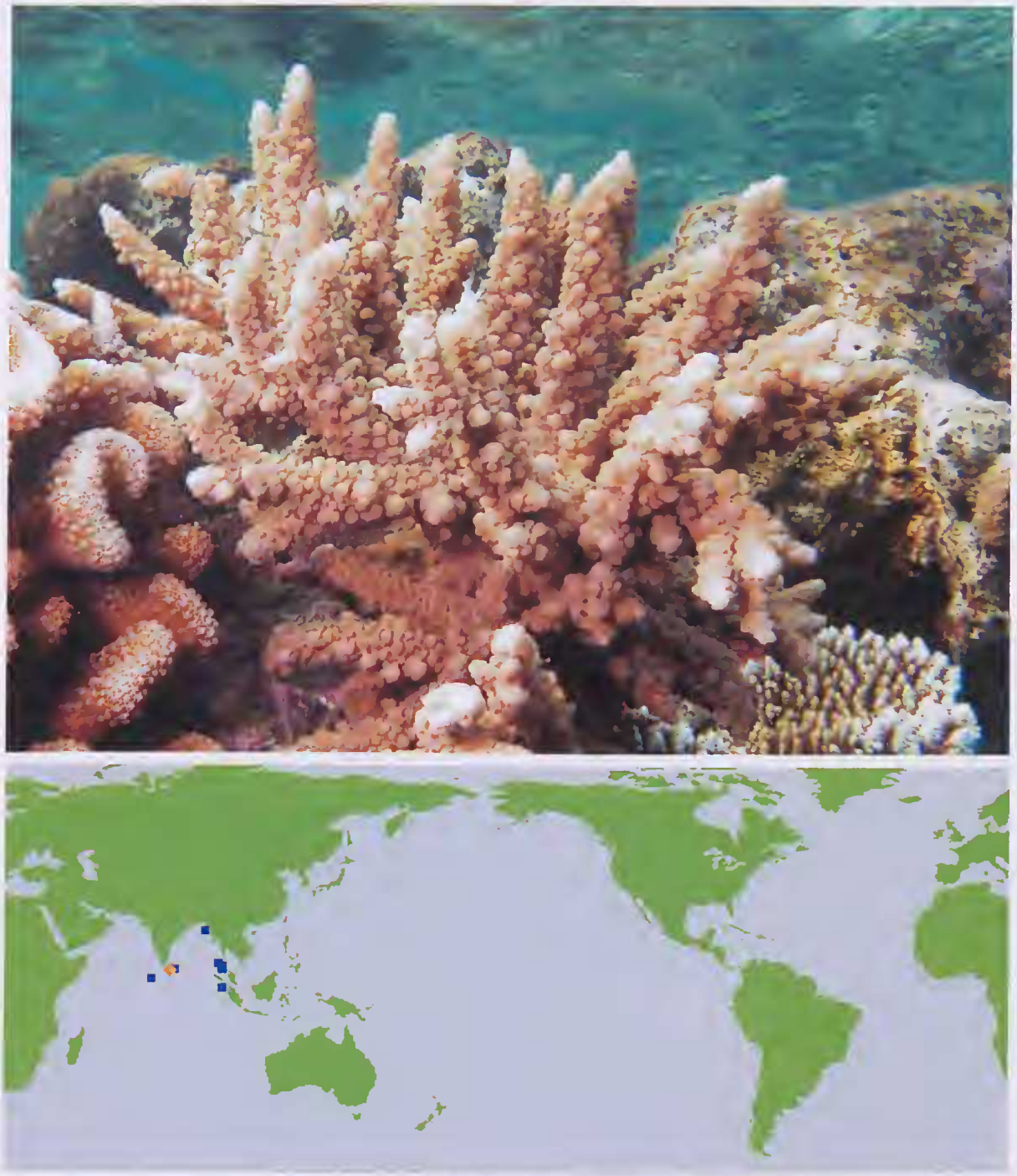


FIG. 84. *Acropora rudis*, G60273, Vabbinfaru I., N. Male Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora russelli Wallace, 1994

(Fig. 85)

Acropora russelli Wallace, 1994: 983, fig. 26.

Type locality. Cartier Reef, Timor Sea.

MTQ Holdings. HOLOTYPE G40795, PARATYPES G40782, G40794, G40796–97 Timor Sea, Australia; **Mauritius:** G59353; **Sri Lanka:** G55765; **Indonesia:** G51486–97, G52422, G63169–71 Halmahera; G60745 Irian Jaya.

Species group: *elegans*

Description. ***Colony outline:*** indeterminate, predominantly free living arborescent. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: <2.5 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.6–2.2 mm; inner diameter 0.5–1.0 mm; primary septa to 1 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000).

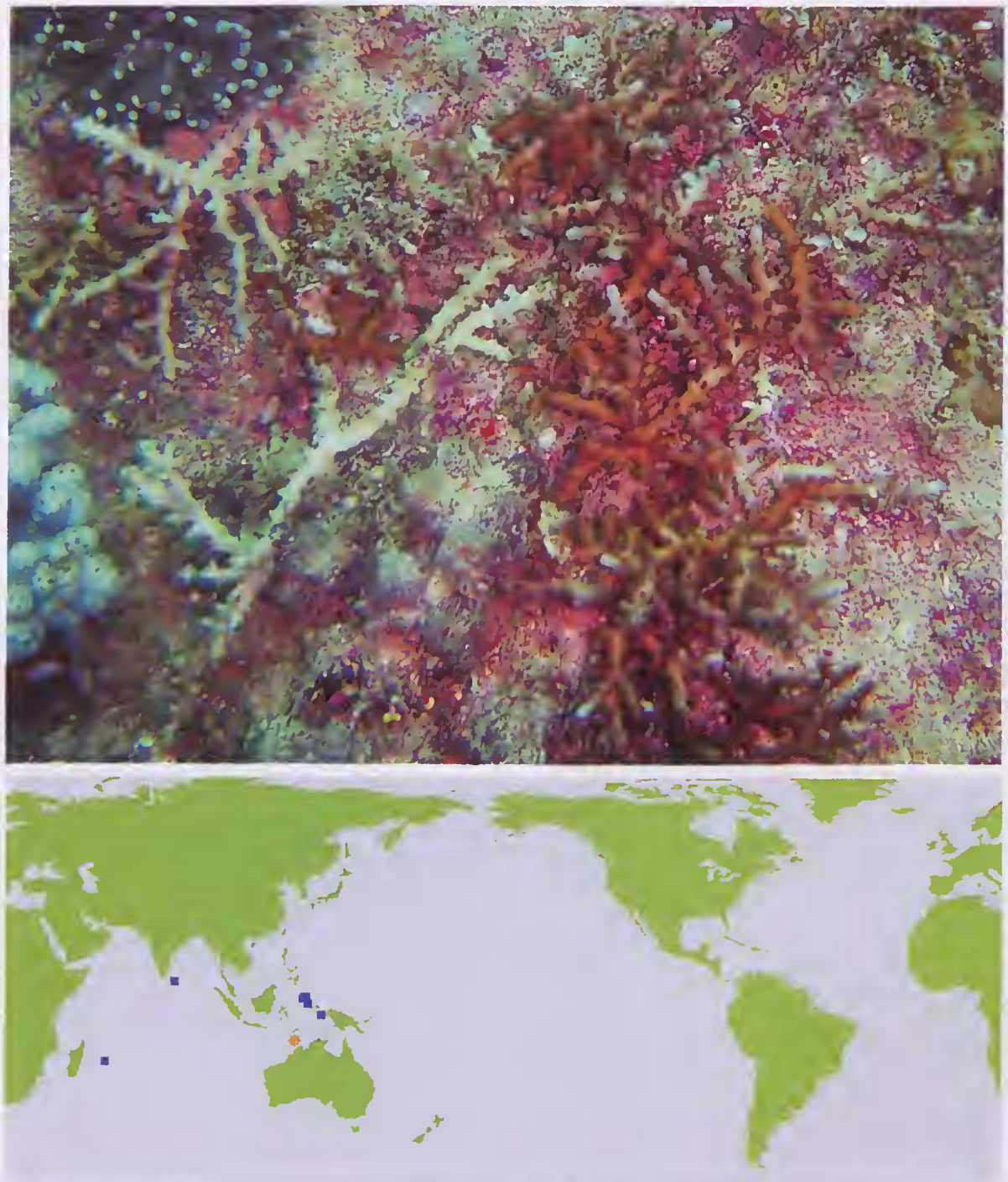


FIG. 85. *Acropora russelli*, Papua New Guinea (Photo: E. Turak). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora samoensis (Brook, 1891)

(Fig. 86)

Madrepora samoensis Brook, 1891: 468; 1893: 143, pl. 31 fig. A, pl. 6 fig. C.
Acropora wallaceae Veron, 1990: 99, figs 4–6.
Acropora torresiana Veron, 2000, vol. 1: 316; 2002: 52–53, figs 98–101.

Type locality. Samoa (lectotype NHM).

MTQ Holdings. G32474 HOLOTYPE of *A. wallaceae* from Great Barrier Reef, Australia; G55780 HOLOTYPE of *A. torresiana* from Torres Strait, Australia; **Red Sea:** G54829, G54863, G57775, G57783 Egypt; G49327, G54767–68, G58678 Saudi Arabia; G49317–18 Sudan; **Socotra:** G58519, G58520; **Kenya:** G58933–34, G58941; **Comoros**: G55091; **Mayotte:** G63318–19, G63399–402; **Seychelles:** G51849, G51883–84, G59458; **Mauritius:** G54530; **Maldives:** G52009, G52088, G52095–96, G59762–66, G59861–66, G60290, G60292, G60296; **Chagos:** G51406, G51435, G51457; **Sri Lanka:** G55774; **Thailand:** G54834, G55946–54, G56439, G56067, G59339; **Malaysia**: G57706, G57754, G57756 mainland and islands; G40015, G40017, G40189, G40199, G49323–24, G53882, G55028 Sabah; **Singapore:** G41009; **Indonesia:** G47168–69, G48658–68, G48672–73 Sumatra; G50819, G59203 Java; G49115–16, G49132, G50536, G51583–84 Bali; G51062 Nusa Tenggara; G48670–71 Alor; G35979 Maluku; G49831–35 Riau; G51063–65 Taka'bonerate; G51204–07 Seribu Is; G48669, G50535 Flores; G49111, G49128–31, G50890–92 Kalimantan; G34179, G35412, G49107, G49117–27, G49332, G50537–38, G51585, G56648–50, G58616 Sulawesi; G51586–89, G53684–88, G54778–79 Halmahera; G47044 Banda Sea; G61053, G61276, G61418 Irian Jaya; **Australia:** G36046, G40866, G47009–10, G48705, G51543, G60640, G64388, G64393 West; G48111–17, G49326, G58978–79 North; G27022, G27066, G27449–50, G27459–60, G27462, G28229–32, G29590, G34142, G34152–53, G39873, G40832, G48314, G56367, G56833, G57609–10, G57999, G58021, G58526, G59018, G60528, G62224, G62279, G62287, G62931–45, G63892, G63903, G63929, G64719 Great Barrier Reef; G54885, G56972, G56975, G56980, G58855, G64977 South-East; G27453, G33458, G33752, G39831, G60527, G63815 Coral Sea; **South China Sea:** G48347, G48351, G48353; **Japan:** G36836, G36917, G38042, G38044, G62319–20, G62323, G62329–30, G62332, G62830–31; **Taiwan:** G45807–09; **Philippines:** G32815; **Palau:** G36539–40, G56867, G56880, G56904; **Papua New Guinea:** G35629, G52949–57, G56651–55; **Micronesia:** G40759 Yap; G40802, G62524, G63235 Pohnpei; **Solomon Is.:** G52597, G56656–60, G57924, G58576, G59000; **New Caledonia:** G33094, G34959, G34972, G34976–77, G34979, G35007, G40876, G49325, G58710, G58724, G58741; **Chesterfield Atoll:** G27378, G27451–52, G27454–58, G27461, G38146–47, G58918; **Marshall Is.:** G37482, G56152; **Fiji:** G34742, G34768, G34815; **Samoa:** G34724, G34817, G41236, G56025; **Cook Is.:** G35703.

Species group: *humilis*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 2.7–4.5 mm; inner diameter 0.8–1.8 mm; primary septa to ¾ R. ***Radial corallites:*** medium; three synapticular rings; two sizes; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: reticulo-costate; spinule shape: elaborate.

Taxonomic note. *Acropora torresiana* is placed in synonymy with *A. samoensis* based on comparison of the holotype with G29590 from Wye Reef and G28230 from Osbourne Reef from Veron and Wallace (1984). We concluded that the *A. torresiana* holotype is an immature and rapidly growing example of *A. samoensis*.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Pillay *et al.* (2002), Wolstenholme *et al.* 2003, Nomura & Mezaki (2005), Turak & DeVantier (2011).

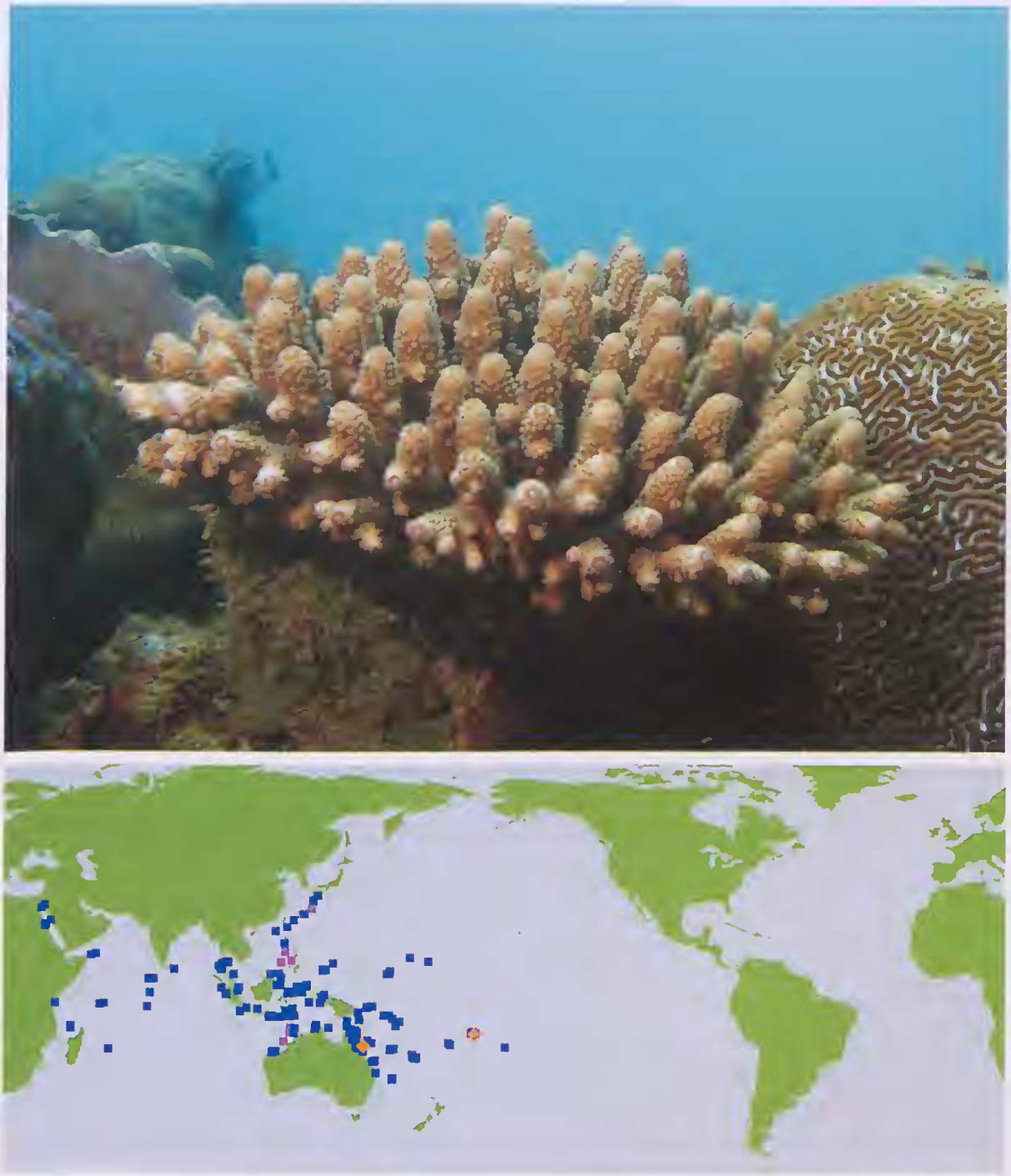


FIG. 86. *Acropora samoensis*, Orpheus Is., North Queensland, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora sarmentosa (Brook, 1892)

(Fig. 87)

Madrepora sarmentosa Brook, 1892: 462; 1893: 127, pl. 22.

Acropora vermiculata Nemenzo, 1967: 108, pl. 31 fig. 4.

Type locality. Port Denison, Queensland (lectotype NHM).

MTQ Holdings. Indonesia: G51175 Java; G39803 Kalimantan; G55435 Sulawesi; G54540 Halmahera; **Australia:** G38663, G40456 West; G27049, G27083, G27899–902, G27904–05, G27907–11, G27913–14, G27916–17, G28239–40, G28578, G28581, G28584–89, G28591–96, G28765, G28767, G28772–73, G28775–78, G28780–82, G28784, G28787, G29023–24, G29026–29, G29393–94, G29396–400, G29402–05, G29409, G29411–12, G30329, G30331, G32464, G34230, G35123–24, G39864, G39881, G39944, G40906, G40985, G47626–29, G51092–95, G51299, G55483, G57031–33, G59017, G60513, G60562, G60593, G64715 Great Barrier Reef; G28590, G28766, G28771, G28774, G28785, G58399, G58432, G58507, G60089, G64151 South-East; G27906, G28786, G29025, G29401, G57624, G57632, G57873, G60565, G64775 Coral Sea; **Japan:** G62855; **Taiwan:** G47613; **Philippines:** G32809, G41949, G45863; **Papua New Guinea:** G53108–29; **Solomon Is.:** G52107, G58050; **New Caledonia:** G33103, G34953, G58726, G59172, G61027; **Chesterfield Atoll:** G27903, G27912, G28579, G28582–83, G29407, G58919; **Samoa:** G34772; **Cook Is.:** G35731; **Austral Is.:** G35806.

Species group: *florida*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: most touching; axial/ radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 3.0–4.0 mm; inner diameter 1.0–2.0 mm; primary septa to ¾ R. ***Radial corallites:*** large; three synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

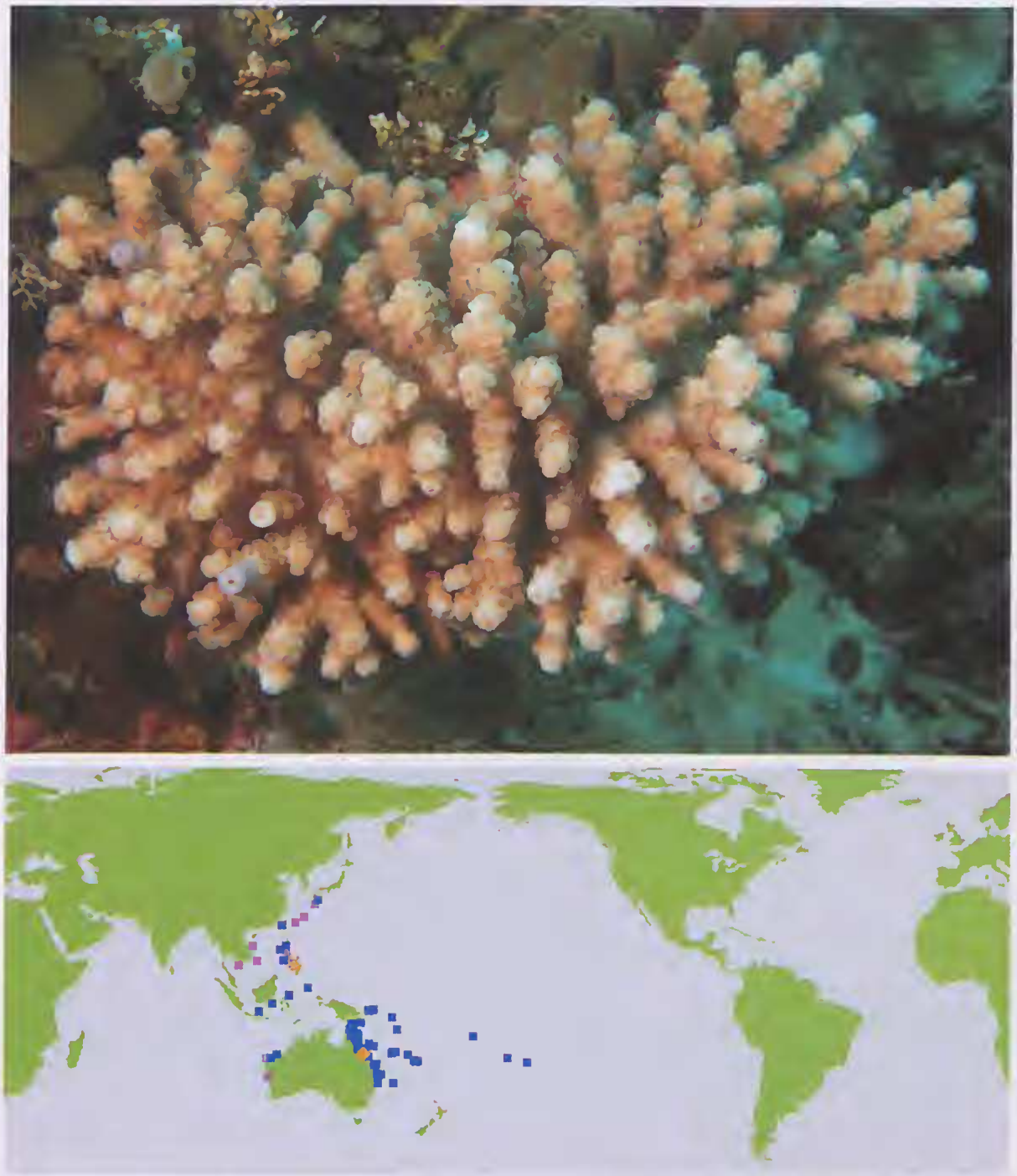


FIG. 87. *Acropora sarmentosa*, G60562, Osprey Reef, Coral Sea, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora secale (Studer, 1878)

(Fig. 88)

Madrepora secale Studer, 1878: 530.
Madrepora concinna Brook, 1891: 460; 1893: 165, pl. 17.
Madrepora diversa Brook, 1891: 461; 1893: 424, pl. 117 figs 3–6.
Madrepora violacea Brook, 1892: 465; 1893: 167, pl. 11 fig. A.
Madrepora quelchi Brook, 1893: 90, pl. 32 fig. D.
Acropora otteri Crossland, 1952: 229, pl. 43 figs 1–2, pl. 44 figs 1–2.

Type locality. Singapore (Studer specimen, not type?) MNB.

MTQ Holdings. Red Sea: G57770, G57782, G57784–85 Egypt; G54712, G55245–47 Saudi Arabia; G54741, G54755, G54763, G58863 Yemen; **Socotra:** G56960; **Kenya:** G35562, G35570–72, G54938, G59128–33, G59607–09; **Aldabra:** G36934, G36938–40; **Mayotte:** G63308–12, G63396–98; **Seychelles:** G51852–54, G59484, G59494, G59516, G59522, G59527; **Mauritius:** G54901; **Maldives:** G52004, G52060–64, G53030, G59749–51, G59885–94, G59986, G60266, G60368, G60381; **Chagos:** G51413–19, G51432–33, G51453–56, G51762–63; **Sri Lanka:** G55225, G55230, G55759, G56328–30; **Thailand:** G36139, G36145, G52637–38, G56098–02, G56064, G59313, G59317, G59415, G61744–45, G61754, G62999; **Malaysia:** G40187, G40192 Sabah; **Singapore:** G41016; **Indonesia:** G60246, G47171, G47186–87, G49637, G49724 Sumatra; G32841, G32846 Java; G49629–31, G49640, G50458, G54184 Bali; G50981 Nusa Tenggara; G49619–20 Alor; G48056, G49613–14 Lombok; G54202–03, G54428–33 Tukangbesi Islands; G49615–18, G49638, G50456–57 Flores; G39822–23, G49625–28 Kalimantan; G51518 Semau; G48050–55, G49605, G49609–12, G49621–24, G49632, G49639, G50095, G50982–83, G59385, G59660 Sulawesi; G54185–87, G54201 Molucca Sea; G54204–05, G54188–200 Halmahera; G48040, G48057–61, G49606–08 Banda Sea; G60756, G60990, G61282, G61296 Irian Jaya; G35766 Irian Jaya; **Australia:** G40870, G40872, G41152, G48777 West; G28070–71, G28073–77, G28219–23, G28225–28, G29120–30, G29132, G29134–36, G29138, G29652–56, G29658, G29660–63, G29665, G30510–11, G30515, G30517–18, G30520–23, G30525–26, G30528–44, G30546–53, G30557–59, G32220–21, G34231, G35375–76, G39883, G43575, G43584–86, G47623, G48298, G48303, G48319, G49241–42, G50691, G57035, G57545, G57735, G57898, G58901–03, G60519–20, G62910–11, G63110, G63809 Great Barrier Reef; G30545, G47287, G60447, G64957–60 South-East; G28224, G29657, G30514, G30516, G30524, G33462, G33468–69, G33471–72, G33474, G33486–87, G33495, G33509, G33511, G33514, G33753, G35884–86, G57633, G57638, G58047 Coral Sea; **South China Sea:** G46824, G52167, G52364; **Japan:** G38062, G47804–05; **Taiwan:** G45818; **Philippines:** G32833, G41696, G41702; **Palau:** G56647, G56849, G56901, G61864; **Guam:** G40743, G40748, G63330; **Papua New Guinea:** G35822, G53061–77, G53422–24; **Louisiade Archipelago:** G33363, G35365–66; **Micronesia:** G38006, G40760, G41171 Yap; G59280–81, G62389–93, G62609–10 Pohnpei; G62726–7, G62787 Kosrae; **New Caledonia:** G61021, G61206; **Chesterfield Atoll:** G29659, G30527, G30554, G58911–12; **Marshall Is.:** G57283–84, G57320; **Fiji:** G40939; **Samoa:** G34755, G36642, G43479, G43486; **Niue:** G54664; **Line Is.:** G59693; **Cook Is.:** G35730; **French Polynesia:** G58659, G58660; **Tahiti:** G53581–82.

Species group: *nasuta*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.4–3.3 mm; inner diameter 0.3–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** medium; three synapticular rings; two sizes; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: open spinules; spinule shape: laterally flattened.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

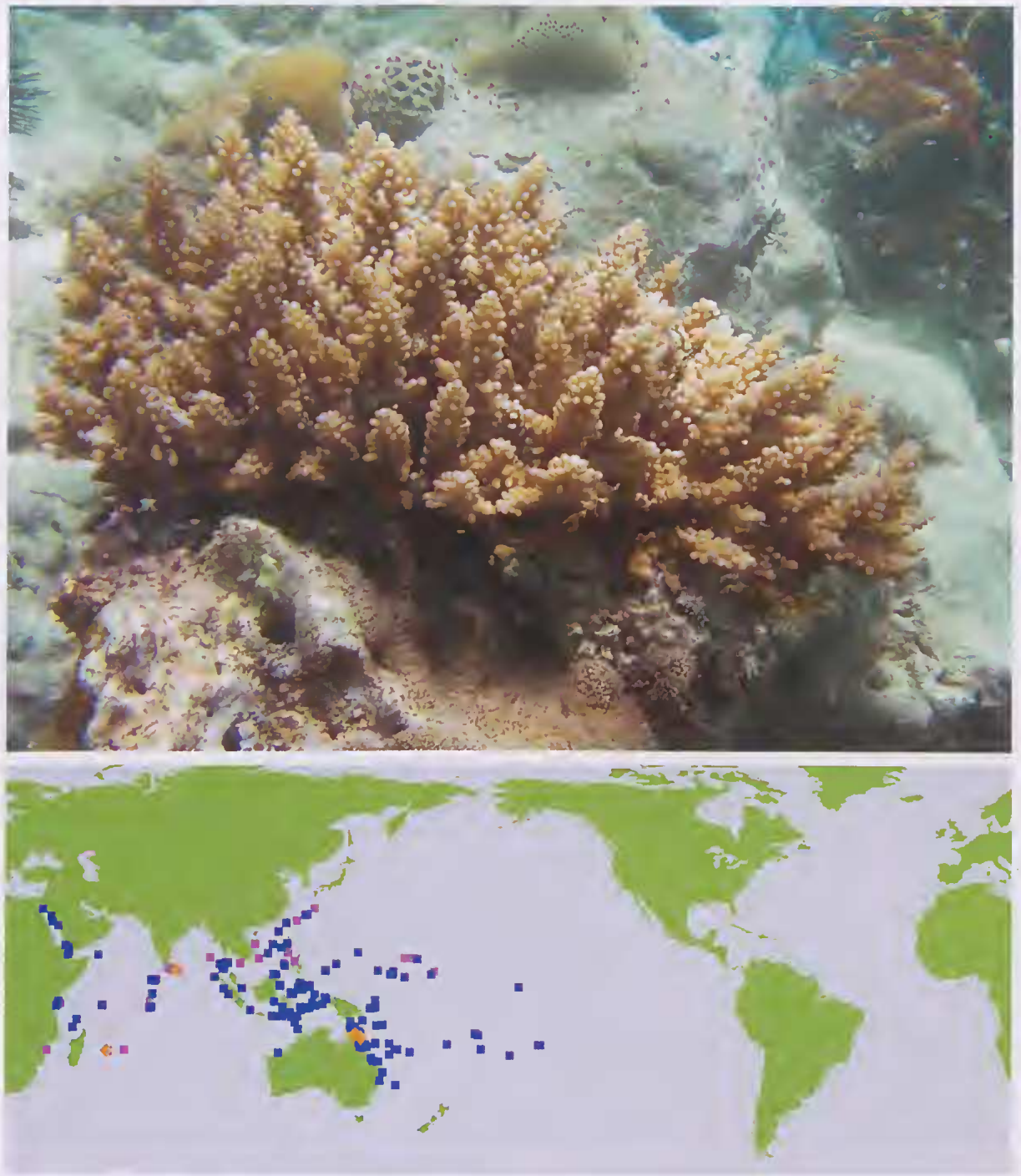


FIG. 88. *Acropora secale,* G59484, Seychelles, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora selago (Studer, 1878)

(Fig. 89)

Madrepora selago Studer, 1878: 530.
Madrepora delicatula Brook, 1891: 461; 1893: 109, pl. 28 figs D–E.

Type locality. New Ireland (Papua New Guinea) (holotype MNB).

MTQ Holdings. Red Sea: G57771, G57786 Egypt; G54750 Yemen; **Oman:** G40960; **Socotra:** G56955, G57404; **Mayotte:** G63298–99, G63347, G63436; **Seychelles:** G59462, G59465, G59521, G59583; **Mauritius:** G54900, G59124, G59126; **Maldives:** G60268, G60275, G60278, G61620, G61625–26; **Chagos:** G51444; **Sri Lanka:** G55581; **Thailand:** G32790, G53656, G55922; **Malaysia:** G53918 Sabah; **Indonesia:** G50189, G50616 Sumatra; G59190 Java; G50218–20 Bali; G48678–79, G50161, G50194–97, G50626–27, G59082 Alor; G51994 Lomblen; G48072–73, G50526 Lombok; G35964, G35975 Maluku; G50931–33, G51071 Taka'bonerate; G47034, G50775 Ambon; G48674–75, G50190, G50391, G50625 Flores; G50210–17, G50221, G50930 Kalimantan; G50192 Semau; G34180, G48064–71, G50186–88, G50198–09, G51987–90, G53736 Sulawesi; G54252 Molucca Sea; G51991–93, G52424, G53735, G54253, G54315–16 Halmahera; G46941–42, G47483, G48062–63, G50185, G58895 Banda Sea; G48676, G50191, G48677, G50193 West Timor; G61299 Irian Jaya; G36037 Irian Jaya; **Australia:** G48761, G60621, G60653 West; G21797, G27019, G27043, G27088, G27140, G27166–71, G27173–74, G27176–82, G27185–88, G27190–92, G27196–97, G27199, G27202, G27204, G27207, G27239–44, G27256–67, G27335–45, G27349–53, G27355–58, G29505–06, G32449–50, G34234, G35051–52, G35118–22, G41090–94, G41105–06, G58058, G58109, G58167–68, G58323, G58360, G60508, G61765 Great Barrier Reef; G35878, G57625, G60533, G63812 Coral Sea; **South China Sea:** G52250–51, G52370; **Japan:** G36949, G38020, G47806, G47808–10; **Philippines:** G32818; **Papua New Guinea:** G39738, G53223–36, G53417, G53718–20, G54310; **Micronesia:** G37996 Chuuk; G40753 Pohnpei; **Solomon Is.:** G52589, G57920, G58592, G58993; **New Caledonia:** G58718, G61033; **Chesterfield Atoll:** G27183, G27190, G27201, G27205, G38155, G38159; **Marshall Is.:** G33142, G56209; **Kiribati:** G32869; **Cook Is.:** G53909–10.

Species group: *selago*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 2.5–4.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.1–2.4 mm; inner diameter 0.5–0.9 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Turak & DeVantier (2011).

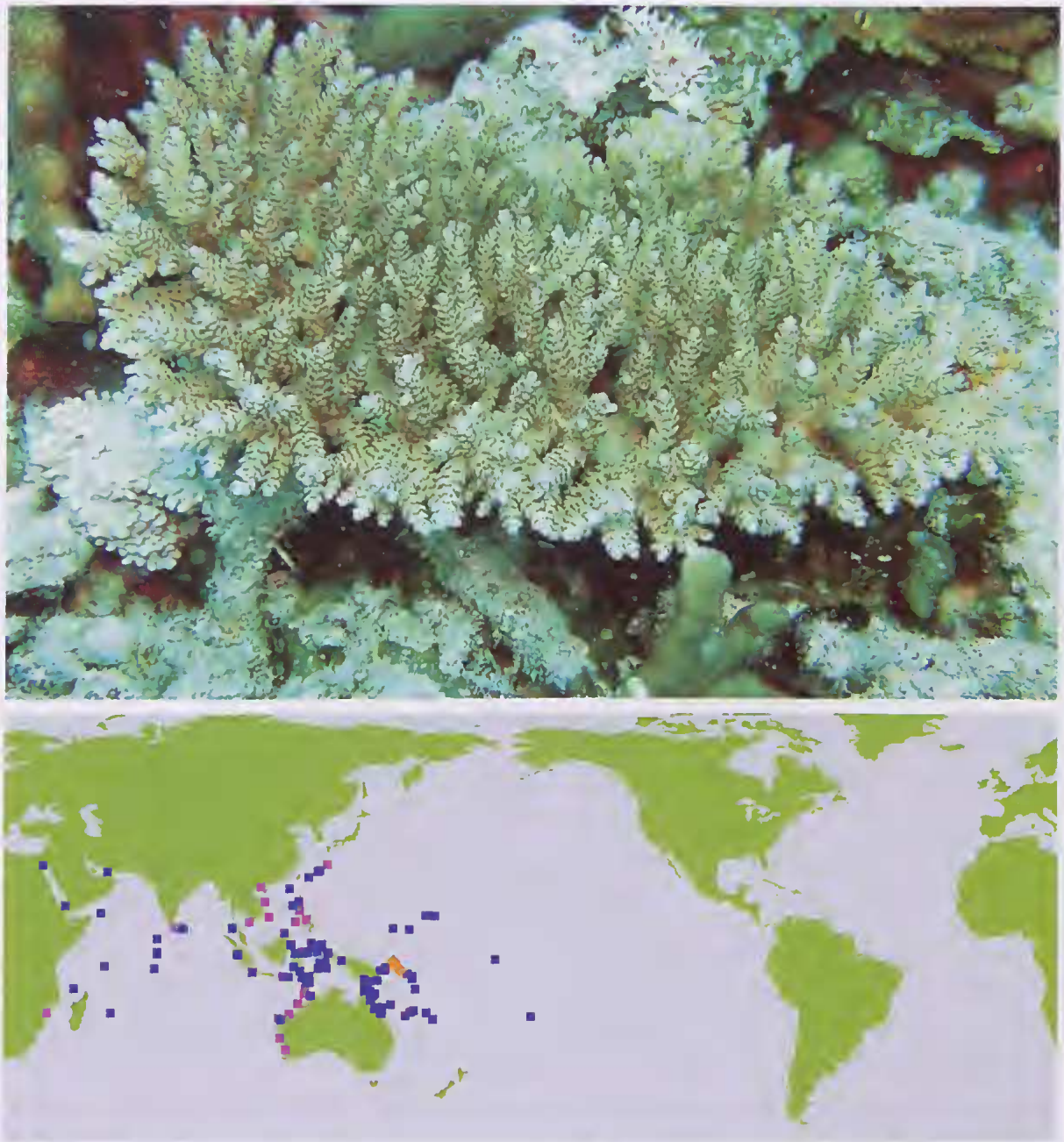


FIG. 89. *Acropora selago*, G60508, Ribbon Reefs, Great Barrier Reef, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora simplex Wallace & Wolstenholme, 1998

(Fig. 90)

Acropora simplex Wallace & Wolstenholme, 1998: 358, fig. 154.

Type locality. Togian Islands, Sulawesi, Indonesia.

MTQ Holdings. HOLOTYPE G51188; **Indonesia:** G57095, G57103, G57109 Irian Jaya; **Philippines:** G55122; **Micronesia:** G59289, G59651, G59653 Pohnpei.

Species group: *loripes*.

Description. ***Colony outline:*** determinate, predominantly plate. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.4–1.8 mm; inner diameter 0.6–0.8 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¾ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000), Turak & DeVantier (2011).

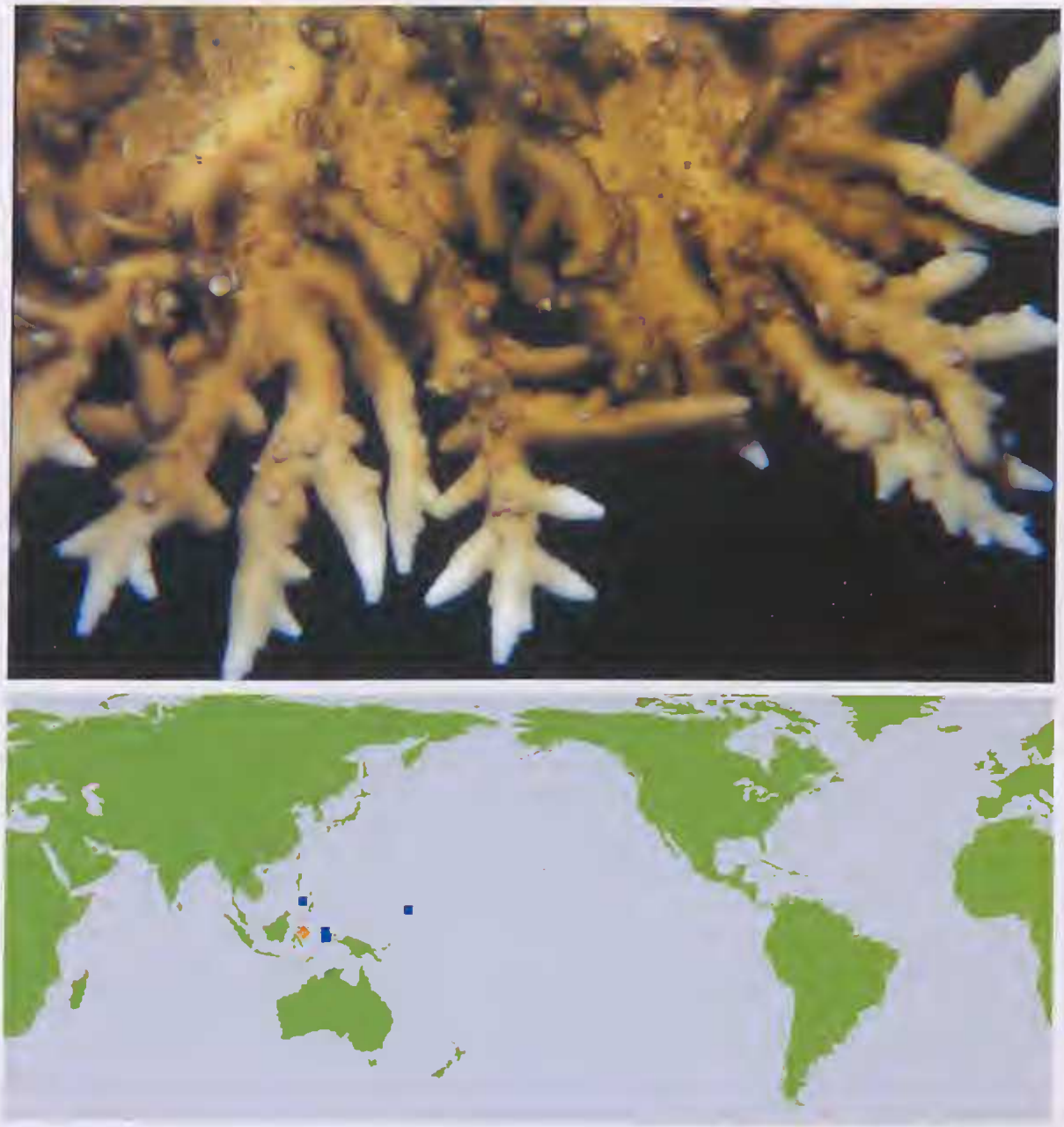


FIG. 90. *Acropora simplex*, Togian Is, Sulawesi, Indonesia, 1995 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora sirikitiae Wallace, Phongsuwan & Muir, 2012

(Fig. 91)

Acropora sirikitiae Wallace, Phongsuwan & Muir, 2012: 119, figs 1, 2.

Type locality. Huyong Island, Similan Islands, Thailand.

MTQ Holdings. HOLOTYPE G55364; PARATYPES G55352–53, G55357, G55362, G55382, G55389, G55392–93, G59316, G55394, G63005 Thailand.

Species group: *divaricata*.

Description. ***Colony outline:*** indeterminate, arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, radial dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.4–2.5 mm; inner diameter 0.6–1.1 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¾ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. This species is the first recorded member of the *A. divaricata* species group with indeterminate colony growth.

FIG. 91. *Acropora sirikitiae*, G55393, Mai-ngam Bay, S. Surin Islands, Andaman Sea, Thailand, 2002 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora solitaryensis Veron & Wallace, 1984

(Fig. 92)

Acropora solitaryensis Veron & Wallace, 1984: 371, figs 916, 922, 928.

Type locality. N. Solitary Island, Australia.

MTQ Holdings. HOLOTYPE G55082; **Red Sea:** G58874 Saudi Arabia; **Socotra:** G56953, G56966, G57400, G57415; **Kenya:** G54917, G59595–97, G59732; **Comoros:** G55092–93; **Mayotte:** G63208, G63281, G63404–09, G63426–27, G63437; **Seychelles:** G47949, G59448, G59451, G59455, G59463, G59466, G59470, G59492, G59495, G59525, G59534, G59557, G59571, G59577–78, G59586, G59591; **Maldives:** G59755, G59984, G59996–60008, G60322, G60355, G60376; **Chagos:** G54321; **Sri Lanka:** G56339–40; **Thailand:** G54832–33, G54836, G56103–12, G59323, G59335, G59426–27, G61738; **Malaysia:** G52621–22, G54997, G57751 mainland and islands; G40016, G53900–02 Sabah; **Singapore:** G41013–14; Hong Kong: G61779–84 **Indonesia:** G47189, G49654–57, G49708–09 Sumatra; G46698–99, G46984, G49705–07, G49712, G50097, G53680, G54093, G54125–26, G59034, G59044, G59716, G59723 Bali; G51025–36 Nusa Tenggara; G49666–83, G49710–11, G50099–102, G50591, G54124 Alor; G54112–21, G54544 Lomblen; G48092 Lombok; G35973 Maluku; G49829–30 Riau; G54122–23 Tukangbesi Islands; G36180 Ambon; G49658–60, G49740 Flores; G49693–704, G49714, G50098, G51023–24 Kalimantan; G49662–64 Semau; G48083–91, G48094–100, G49650–53, G49685–92, G49713, G49739, G49741–42, G54094–97, G54229 Sulawesi; G54098–99, G54110–11, G54308 Molucca Sea; G52429–35, G54100–09 Halmahera; G48076–82, G48093, G48653, G49649, G49738, G57113 Banda Sea; G49661, G49665 West Timor; G60757, G61280 Irian Jaya; G57094, G57098–99, G57105–06 Irian Jaya; **Australia:** G40465, G40467, G48789–94, G51546 West; G48137 North; G27010, G27492, G50690, G56918–19, G60516, G60595 Great Barrier Reef; G27006–07, G27009, G27011–14, G27482–84, G27486–91, G27493–504, G33194, G35798–99, G36163–71, G36173–75, G39854–56, G41080, G47055–62, G55083, G56553, G57493–95, G58397–98, G58489–90, G58504–05, G58512, G58517, G58839, G60098, G60107–15, G60234–36, G60403–04, G60406–07, G60409, G60414, G60445–46, G60449, G60455, G61750, G62805, G62822–23, G63118, G64817, G65006–12 South-East; G63801 Coral Sea; **South China Sea:** G37625–26, G46806–14, G52178–80, G52268, G52291–92, G52358–62; **Japan:** G38021, G47793, G62842–44, G62878–93, G62994; **Taiwan:** G45830–32, G45835–37, G46532, G47585, G47603; **Philippines:** G52318; **Papua New Guinea:** G35615, G52958–77, G53418, G53528, G61730; **Micronesia:** G41087–89 Kosrae; **Solomon Is.:** G57913–14, G58992; **New Caledonia:** G41108, G61202; **Marshall Is.:** G56210, G57285; **Cook Is.:** G35941–42; **Austral Is.:** G32875.

Species group: *divaricata.*

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.6–3.4 mm; inner diameter 0.5–1.1 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; openings: dimidiate; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: forked.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Chan *et al.* (2004), Nomura & Mezaki (2005), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

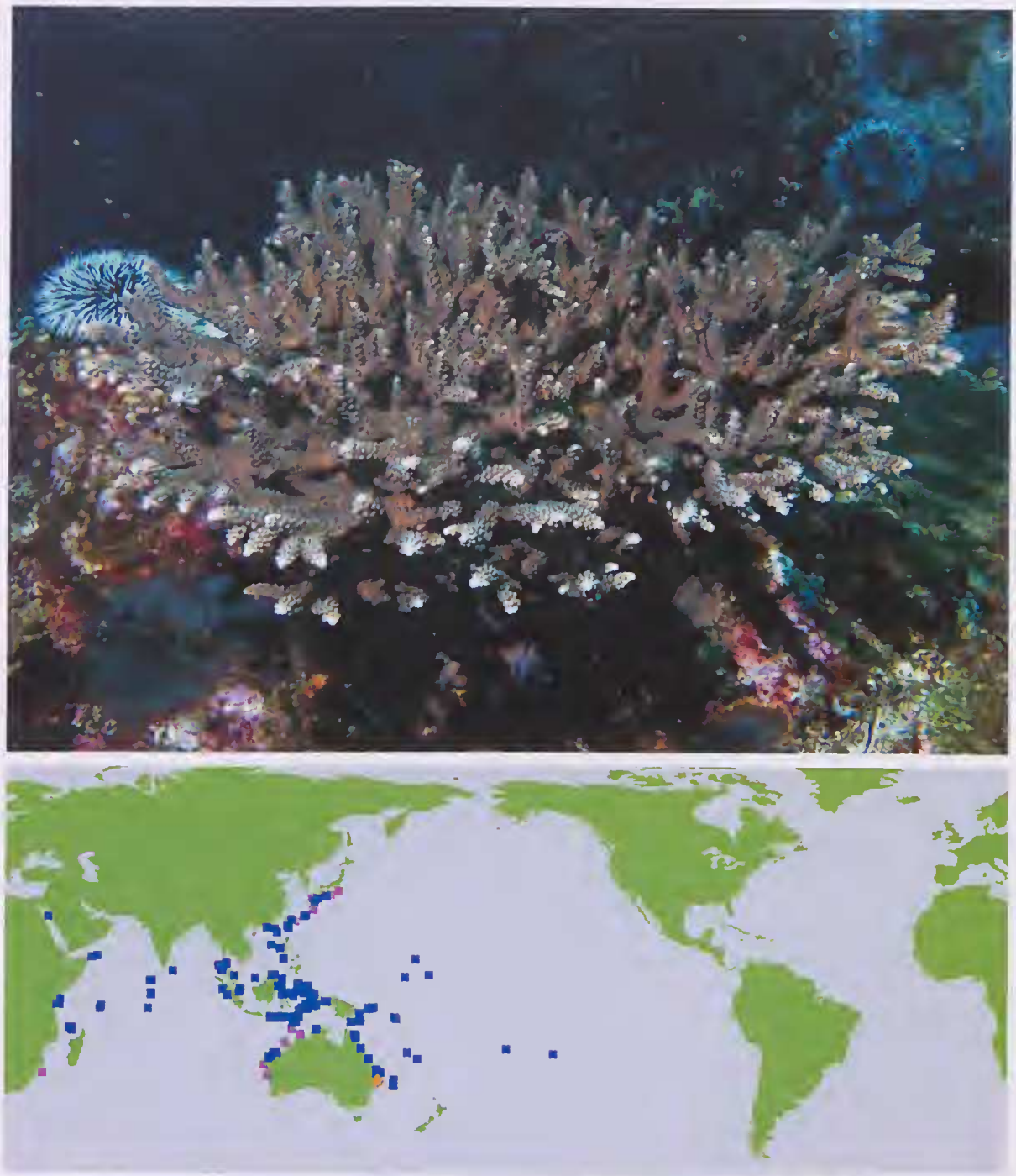


FIG. 92. *Acropora solitaryensis*, G65008, Solitary Islands, East Australia, 2011 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora spathulata (Brook, 1891)

(Fig. 93)

Madrepora spathulata Brook, 1891: 469; 1893: 121, pl. 32 fig. B.

Type locality. Treasury Island, Solomon Is (holotype NHM).

MTQ Holdings. Australia: G30358, G31165, G31167, G31169–74, G41096–99, G41177–78, G46028–29, G46423, G48362, G48364, G48372, G57034, G58226–34, G58253–57, G58263, G58282–83, G58324–28, G58361–62, G58383–84, G58404–08, G60574, G63932–33 Great Barrier Reef; G33475, G33498 Coral Sea; **Papua New Guinea:** G52895, G55118–20; **Solomon Is.:** G58538.

Species group: *aspera*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 2.3–3.5 mm; inner diameter 0.8–1.5 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace (1999), Veron (2000).

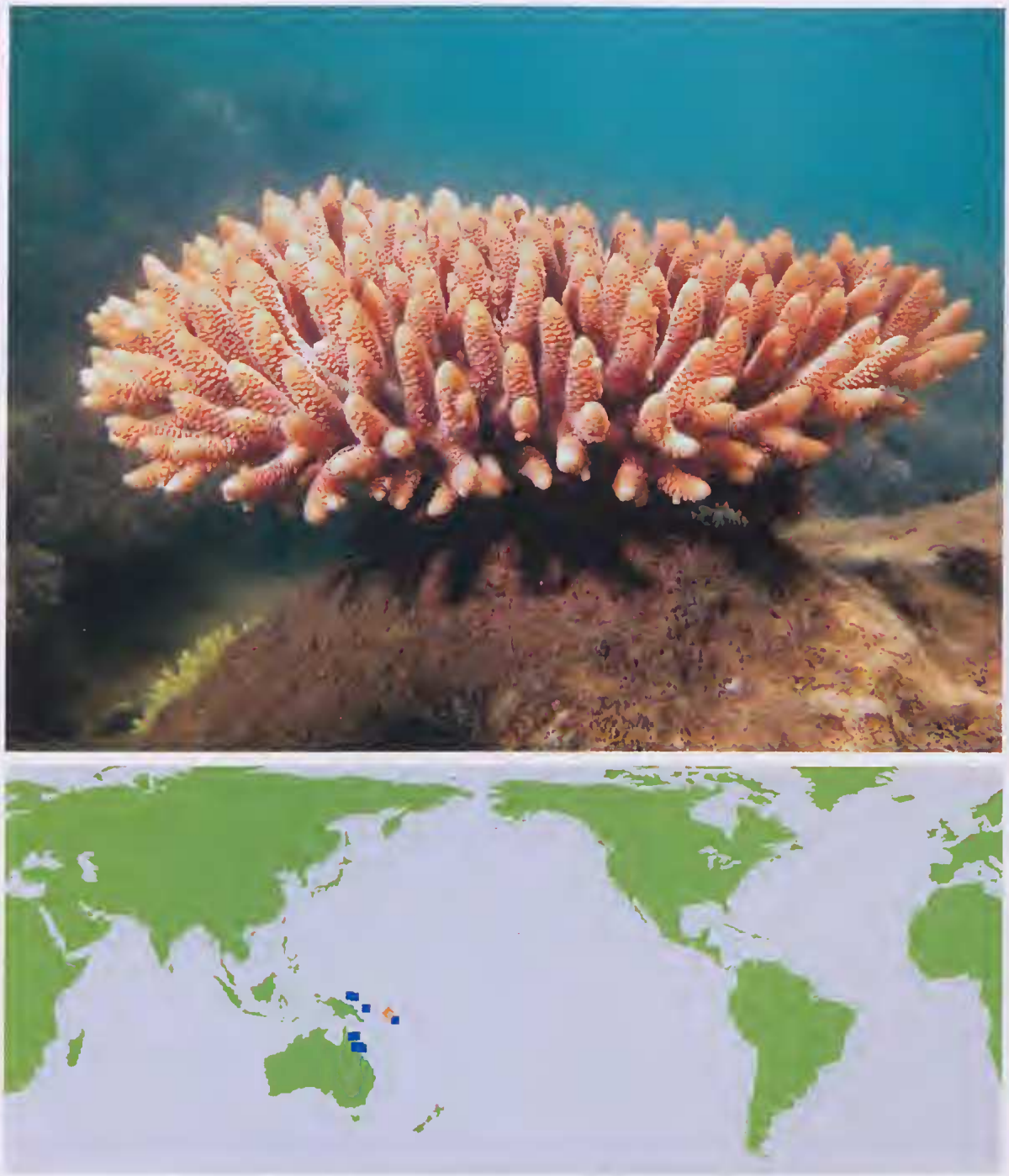


FIG. 93. *Acropora spathulata*, Orpheus Is., North Queensland, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora speciosa (Quelch, 1886)

(Fig. 94)

Madrepora speciosa Quelch, 1886: 163, pl. 10 fig. 1.
Madrepora rayneri Brook, 1892: 461; 1893: 191, pl. 8 fig. A.

Type locality. Tahiti (holotype NHM).

MTQ Holdings. Mayotte: G63315; **Maldives:** G60010, G60301, G60307, G60316, G61601; **Indonesia:** G50421, G50449, G50524, G51200 Bali; G53672 Alor; G48245–46 Lombok; G50793 Ambon; G50414, G50525, G51020 Flores; G50437–38, G50444–45 Kalimantan; G48230, G50430, G50523, G51013–18, G51212, G51890–93, G51897–900, G57000, G57002, G57650, Sulawesi; G51894–96, G52423 Halmahera; G58894 Banda Sea; G60992, G61051, G61230 Irian Jaya; **Australia:** G30357, G56917, G56936, G57027–30, G60538, G60548, G62216, G62222, G62263–64, G62269–70, G62280, G62282, G63803–05, G63890–91, G63924–25, G64802 Great Barrier Reef; G58043, G60523 Coral Sea; **Philippines:** G32830; **Palau:** G56876–77; **Papua New Guinea:** G35666, G53130–40, G53440; **Micronesia:** G62465, G62594 Pohnpei; **Solomon Is.:** G57919, G58532; **New Caledonia:** G59171; **Marshall Is.:** G56318; **Fiji:** G40929.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly plate. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 0.6–1.5 mm; inner diameter 0.3–0.8 mm; primary septa to ¼ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

FIG. 94. *Acropora speciosa*, G62465, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora spicifera (Dana, 1846)

(Fig. 95)

Madrepora spicifera Dana, 1846: 442, pl. 33 figs 4, 4a–b, 5.

Type locality. Singapore (lectotype NMNH-SI).

MTQ Holdings. Red Sea: G50184; **Maldives:** G59946, G60262–63, G60280; **Thailand:** G55994, G59402, G59417, G59429; **Malaysia**: G57667 mainland and islands; G40030 Sabah; **Singapore:** G41030, G45885–86; **Indonesia:** G50152 Sumatra; G59191–92 Java; G46988, G46990–94, G50181–83, G50617 Bali; G50160, G50162–66, G50168 Alor; G53744 Lomblen; G49827–28 Riau; G53745 Tukangbesi Islands; G43820–23 Taka'bonerate; G50732–33 Seribu Is; G50780 Ambon; G50153–56 Flores; G50179, G50180 Kalimantan; G50159 Semau; G48075, G50169–72, G50174, G50176, G50178, G50609–10, G50615, G54313, G55429 Sulawesi; G53738 Molucca Sea; G53739–43, G54133, G54314 Halmahera; G46943–45 Banda Sea; G50157–58, G36042 Irian Jaya; **Australia:** G47008, G51538, G52447–52, G52663, G60624–25, G61083, G63139, G64392 West; G51269, G58974, G59042 North; **South China Sea:** G37622–24, G51156, G52153; **Japan:** G38043, G62852–53, G63128–30; **Philippines:** G41568; **Papua New Guinea**: G35826, G53595; **Marshall Is.:** G33144; **Fiji:** G40926.

Species group: *aspera*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, axial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; porous; outer diameter 0.9–2.1 mm; inner diameter 0.5–1.1 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: horizontal lip; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

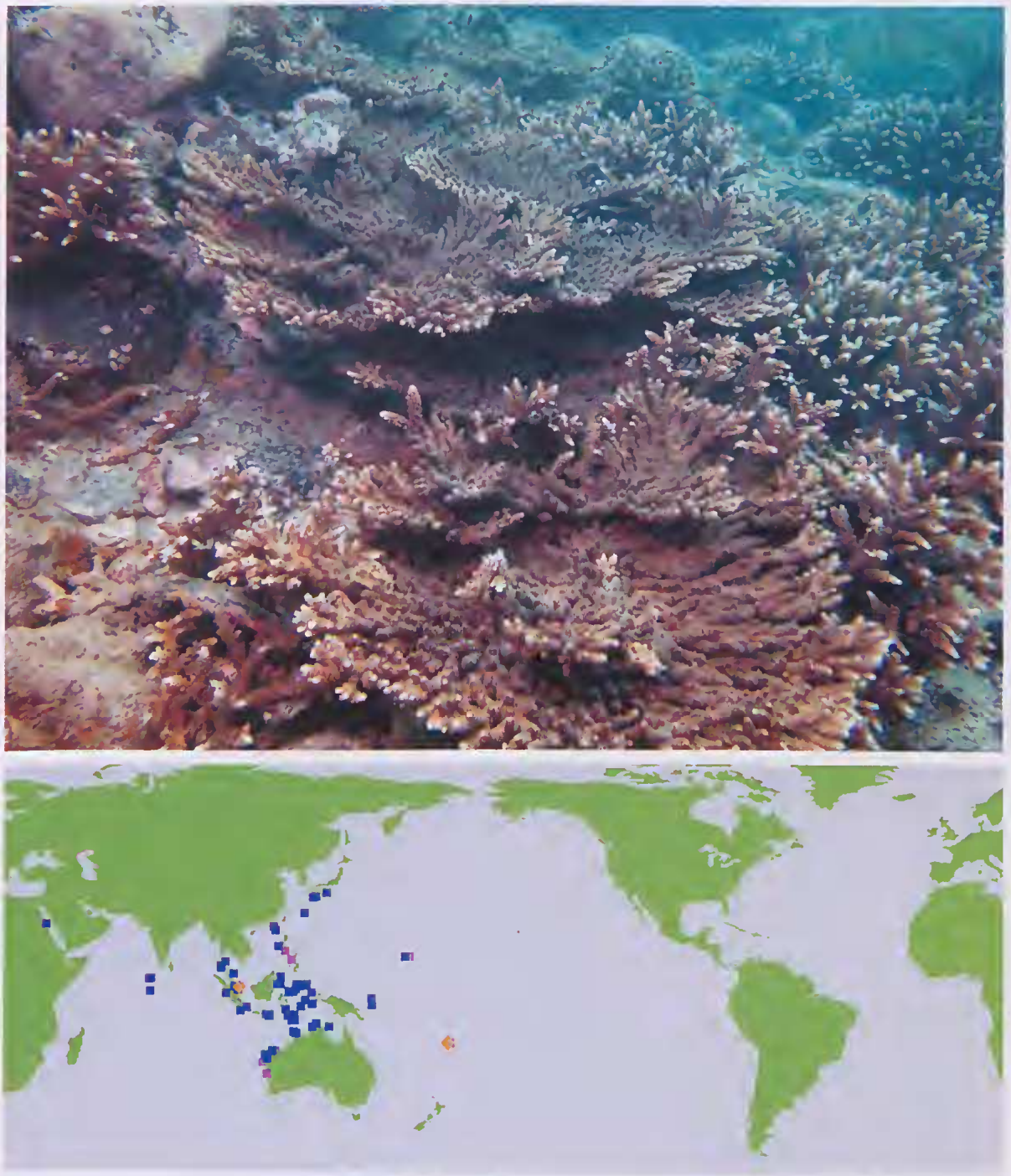


FIG. 95. *Acropora spicifera*, G63130, Kushimoto, Japan, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora squarrosa (Ehrenberg, 1834)

(Fig. 96)

Heteropora squarrosa Ehrenberg, 1834: 112
Acropora maryae Veron, 2000, vol. 1: 392; 2002: 60–62, figs 117–122.

Type locality. Red Sea (holotype MNB).

MTQ Holdings. Red Sea: G54477; G55785 HOLOTYPE of *A. maryae*; G57787 Egypt; G54843–45, G55186, G55269, G57048, G58876, G58877 Saudi Arabia.

Species group: *loripes*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 2.2–4.2 mm; inner diameter 0.4–0.8 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. *Acropora maryae* is placed in synonymy with *A. squarrosa* because the holotype G55785 falls within the range of variation of characters of speciments in this collection, which have been compared with the Ehrenberg type of *A. squarrosa*.

Further literature: Sheppard & Sheppard (1991), Wallace (1999), Veron (2000), Veron (2002).

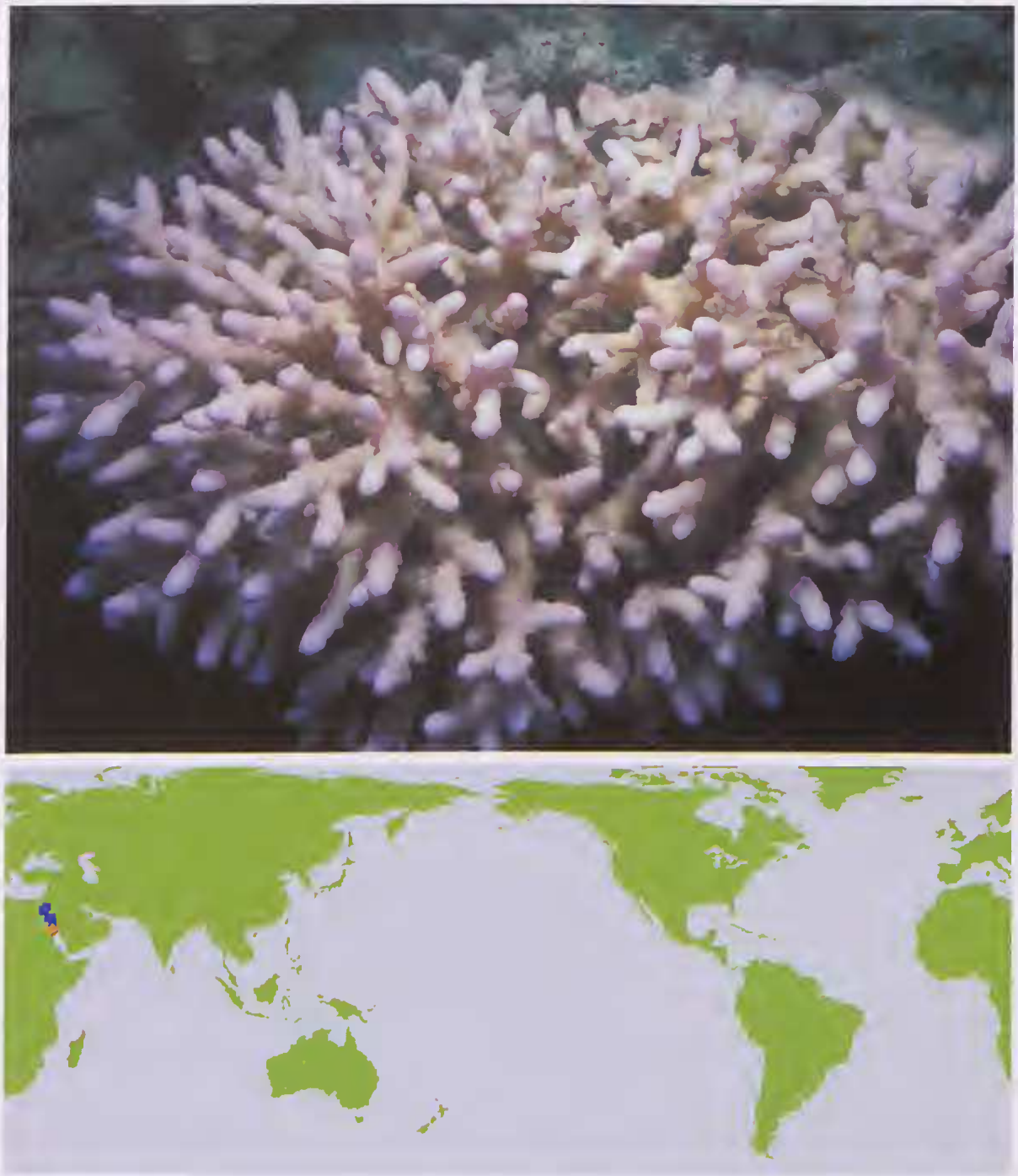


FIG. 96. *Acropora squarrosa*, Red Sea (photo: E. Turak). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora stoddarti Pillai & Scheer, 1976

(Fig. 97)

Acropora stoddarti Pillai & Scheer, 1976: 27, pls 5–6.

Type locality. Addu Atoll, Maldives (holotype HSMD).

MTQ Holdings. Maldives: topotypes G46421–23 Addu Atoll, Maldives.

Species group: *divaricata.*

Description. ***Colony outline:*** determinate, predominantly arborescent table. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 10.0–19.9 mm, 50/50 axial/radial; tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings; not porous; outer diameter 1.9–2.5 mm; inner diameter 0.7–1.3 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: nariform; round openings; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: reticulate to reticulo-costate, spinule shape: single point or forked.

Taxonomic note. These specimens at the type locality (Gan I. lagoon, Addu Atoll, Maldives). We have taken *A. stoddarti* out of the synonymy with *A. divaricata* (as given in Wallace 1999): however its precise identity remains elusive. While all specimens share similarities with *A. divaricata,* there is a high degree of variability, amongst the three specimens at hand, in the width of branches, which range from broad and strap-like to slender and tapering. The colony illustrated bears the greatest similarity to syntype X2:31-24 of Pillai and Scheer (1976).

Further literature: Veron (2000) (some of the illustrated specimens may not be *A. stoddarti*).

FIG. 97. *Acropora stoddarti*, G64621, Addu Atoll, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora striata (Verrill, 1866)

(Fig. 98)

Madrepora striata Verrill, 1866: 24; 1901: 251, pl. 36 figs 4–4a, pl. 36A figs 4–4a, pl. 36F fig. 7.

Type locality. Ousima Japan (syntype NMNH-SI).

MTQ Holdings. Red Sea: G62979 Saudi Arabia; **Mayotte:** G63415–16, G63207, G63421; **Seychelles:** G59469, G59472; **Mauritius**: G59123; **Maldives:** G59748, G59949–51, G59983, G60352, G61634; **Thailand:** G55934; **Indonesia:** G50106–07 Bali; G53857 Flores; G48953–54, G50490 Kalimantan; G48945–52, G50104, G50318, G50489, G52036–37, G55415, G57649 Sulawesi; G58945 Banda Sea; **Australia:** G40451, G60645 West; G58258, G59012, G60552 Great Barrier Reef; G49875, G57872, G64776 Coral Sea; **Japan:** G36827–28; **Palau:** G56645–46, G56851; **Papua New Guinea:** G53255, G53621–24, G53626–28, G59113; **Micronesia:** G59249, G59647, G62384, G62492–94, G62506–09, G62561, G62573, G62641–45 Pohnpei; **Solomon Is.:** G52576, G52583–84, G59005; **New Caledonia:** G59174, G61046, G61223; **Chesterfield Atoll:** G38618–19; **Marshall Is.:** G33141, G33152, G37476–77, G37481, G37553, G56162–63, G56228–30, G57162–65, G57313–15; **Kiribati:** G54960, G54973; **Samoa:** G56019; **Niue:** G36029, G54510–11, G54667, G54670, G54671; **Cook Is.:** G55536; **French Polynesia:** G44034, G58650, G58655.

Species group: *selago*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.6–2.4 mm; inner diameter 0.8–1.1 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Turak & DeVantier (2011).

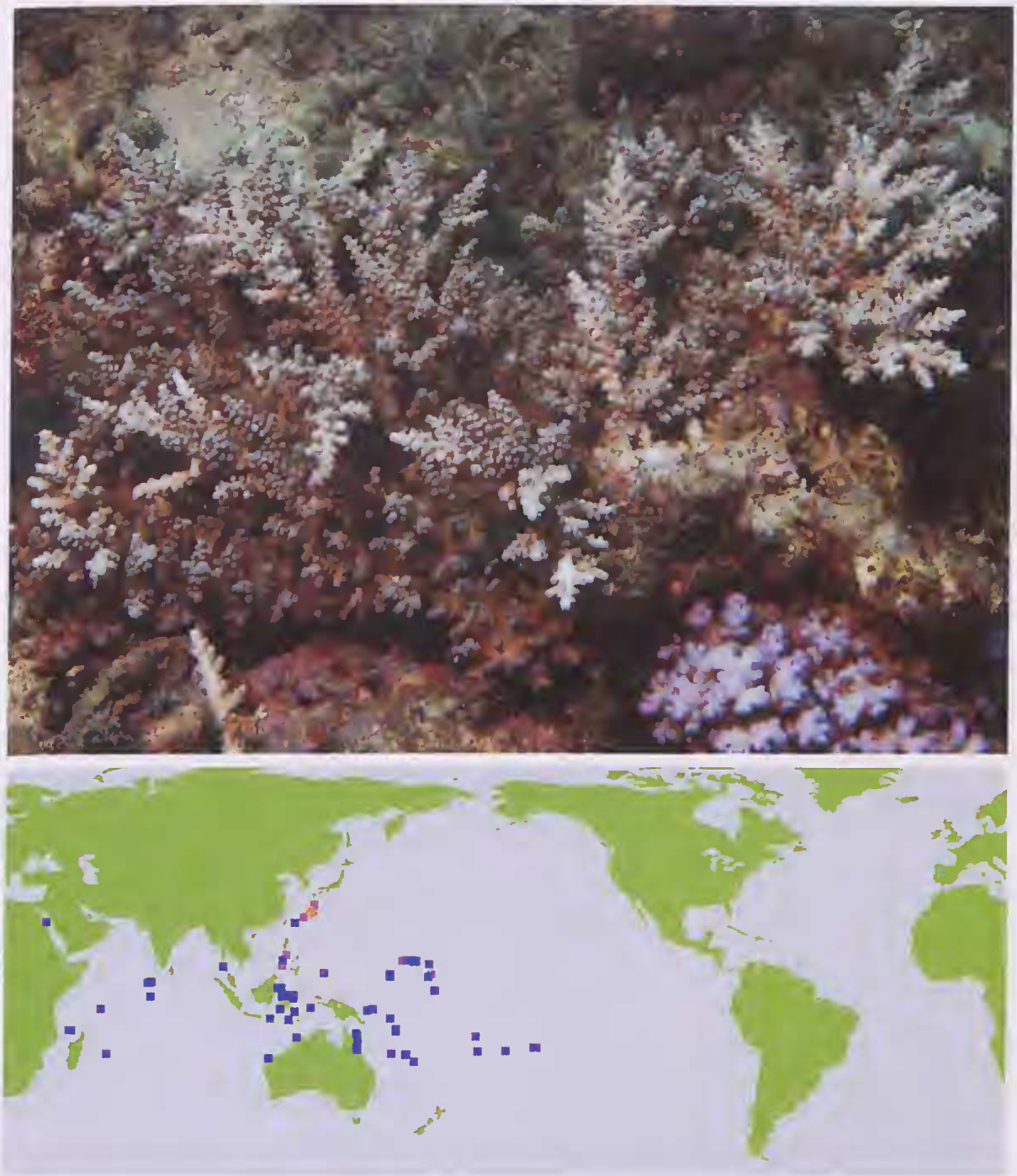


FIG. 98. *Acropora striata*, G63416, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora subglabra (Brook, 1891)

(Fig. 99)

Madrepora subglabra Brook, 1891: 470; 1893: 186, pl. 29 fig. C.

Acropora spiniformis Eguchi & Shirai, 1977: 493.

Type locality. South Seas (lectotype NHM).

MTQ Holdings. Maldives: G52012, G59747; **Thailand:** G55932–33, G56002–03, G56438, G63007; Malaysia: G41127, G53886 Sabah; **Indonesia:** G50371–72, G59067 Bali; G51044–48 Nusa Tenggara; G51786 Tukangbesi Islands; G51049–51 Taka'bonerate; G50511 Flores; G50363–70, G51052–61, G59058, G59063, G59065–66 Kalimantan; G50355–56 Semau; G35512, G47722–27, G50353–54, G50360–62, G51645–47, G55449–51, G58793, G59387 Sulawesi; G51648–65, G52425–26, G63155–56 Halmahera; G47713–21, G58897 Banda Sea; G50357–59, G50512 West Timor; **Australia:** G41147, G41162 North; G29333, G41147, G41162 West; G29334–51, G31162–63, G56922, G57015–17 Great Barrier Reef; G31161 Coral Sea; **Palau:** G56846–48, G56855, G56879, G56900; **Papua New Guinea:** G35831, G53195–04, G54551–54, G54660–62, G57121–24, G59116; **Micronesia:** G59642 Pohnpei; **Solomon Is.:** G57917–18, G58589; **New Caledonia:** G40878, G40885, G40891, G40893–94, G61199; **Fiji:** G40924, G40940.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 0.8–1.5 mm; inner diameter 0.3–0.8 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: costate; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

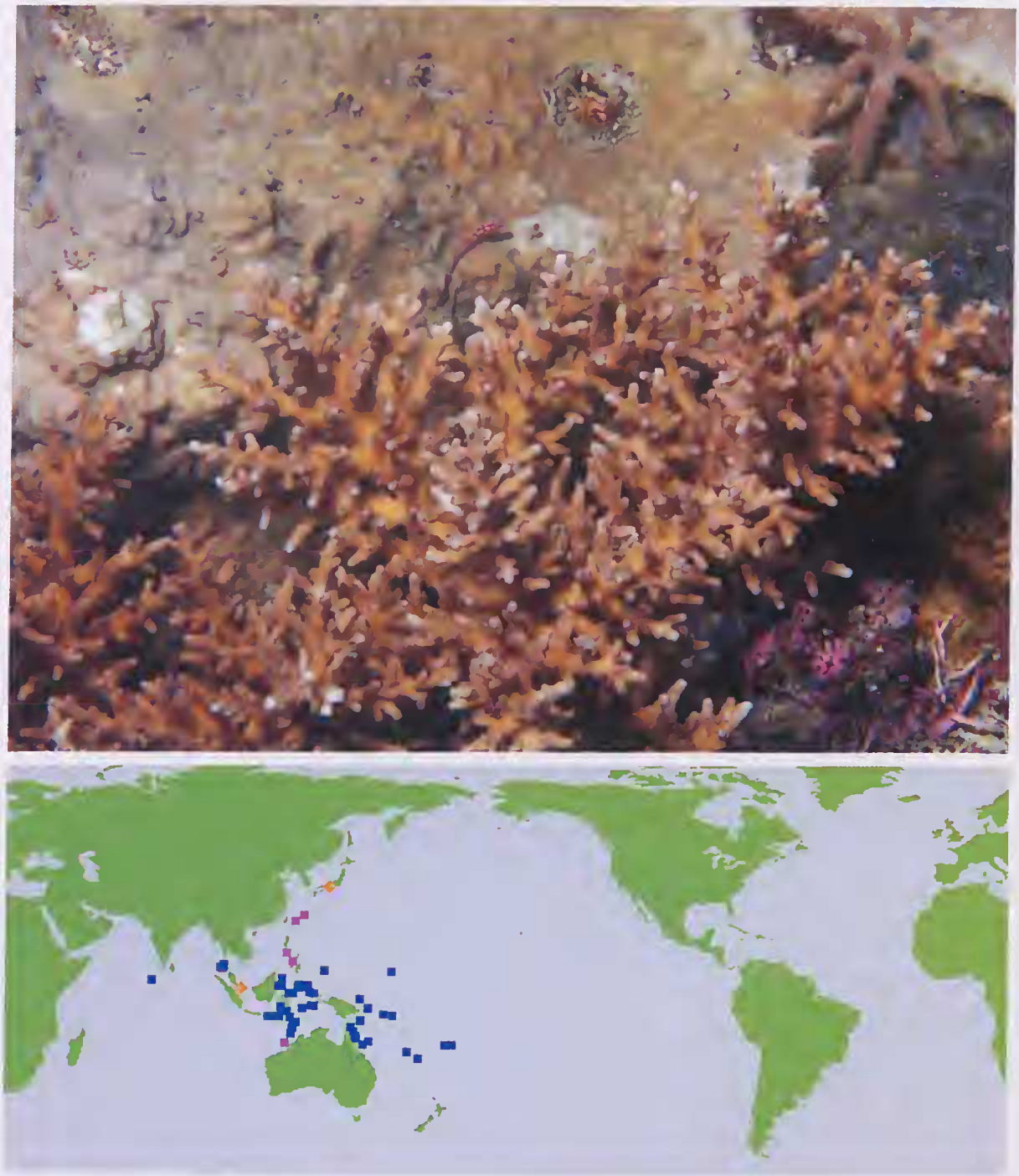


FIG. 99. *Acropora subglabra*, G65114 Ribbon Reefs, Great Barrier Reef, Australia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora subulata (Dana, 1846)

(Fig. 100)

Madrepora subulata Dana, 1846: 448, pl. 32 fig. 3.
Madrepora frondosa Brook, 1893: 114, pl. 34 fig. E.
Acropora lamarcki Veron 2000, vol. 1: 376; 2002: 59.

Type locality. Fiji (lectotype NMNH-SI).

MTQ Holdings. Red Sea: G55262, G57768, G57778 Egypt; G54942–44 Sudan; G54756–60 Yemen; **Socotra:** G56957, G57406, G57412; **Kenya:** G55855 Tanzania HOLOTYPE of *A. lamarcki*; G54928, G54937; **Mayotte:** G63262–65, G63360–61, G63417; **Seychelles:** G59450, G59480, G59523–24, G59533, G59543; **Mauritius:** G51875, G54896–97, G54939; **Maldives:** G59752–54, G59921, G60285, G60366; **Thailand:** G55900–03, G59337; **Malaysia:** G57681, G57687 mainland and islands; G41139, G41145, G53891 Sabah; **Indonesia:** G54701–03 Sumatra; G49982 Bali; G49976–81, G50024–25, G50167 Alor; G48156 Lombok; G54439 Tukangbesi Islands; G50945 Taka'bonerate; G50061, G50729 Seribu Is; G50779 Ambon; G49970–73 Flores; G49987–91 Kalimantan; G49974, G49975 Semau; G35513, G35518, G35820, G48153–55, G49968–69, G49983–86, G50021–23, G50094, G50612, G54206, G55452 Sulawesi; G54208, G54217–19 Molucca Sea; G52427–28, G54209–16 Halmahera; G49963–67, G50020, G53762 Banda Sea; G61058, G61063, G61250 Irian Jaya; **Australia:** G36786, G39760–61, G60629 West; G27068, G28302–17, G29032, G29034–35, G29066, G29069–73, G32212–13, G32460, G48315, G48489, G57518, G57531, G57598, G57987, G60566, G63931 Great Barrier Reef; G29030, G62803, G63237 South-East; G29068, G33501 Coral Sea; **South China Sea:** G37621, G52290, G52353–54; **Japan:** G62300; **Taiwan:** G45896, G46530; **Philippines:** G32826, G41712; **Palau:** G61862; **Papua New Guinea:** G35825, G53416, G53420, G53558–59, G53597, G55084; **Micronesia:** G62629, G62649 Pohnpei; G62744 Kosrae; **Solomon Is.:** G52581–82; **New Caledonia:** G34963, G61023, G61028; **Chesterfield Atoll:** G29067; **Vanuatu:** G59041; **Marshall Is.:** G33127, G56155; **Kiribati:** G54978, G58795; **Fiji:** G40925; **Cook Is.:** G55544.

Species group: *latistella*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.2–1.9 mm; inner diameter 0.8–1.2 mm; primary septa to ¾ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: elongate lip; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: reticulo-costate; spinule shape: single point.

Taxonomic note. *Acropora lamarcki* Veron, 2000 is placed in synonymy with *A. subulata* following examination of specimens at MTQ that have been compared with the *A. subulata* type, i.e. G54756 from Yemen, G46530 from Taiwan and G56155 from Bikini Atoll, Marshall Islands.

Of *Acropora lamarcki*, Veron (2000, 2002) states: 'This is a new name for what may have been *Acropora corymbosa* (Lamarck, 1816)'. If this were true, then *A. corymbosa* would have to be the senior available name for *A. lamarcki*, and thus also the senior name for *A. subulata* (Dana, 1846) under the present subjective synonymy. However, *A. corymbosa* is more frequently linked with *A. cytherea* Dana, 1846 (Wallace 1978: 288). As a specimen thought to be the type of *A. corymbosa* has been sighted in the collection of the MNHN by both Brook (1893) and Wells (cited in Wallace 1978), it seems advisable, at this time, to exercise caution in resurrecting *Acropora corymbosa* as the available name of either of the aforementioned species without a thorough attempt to locate Lamarck's type specimen and be sure of its proper identity.

Further literature: Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Dai & Horng (2009), Turak & DeVantier (2011).

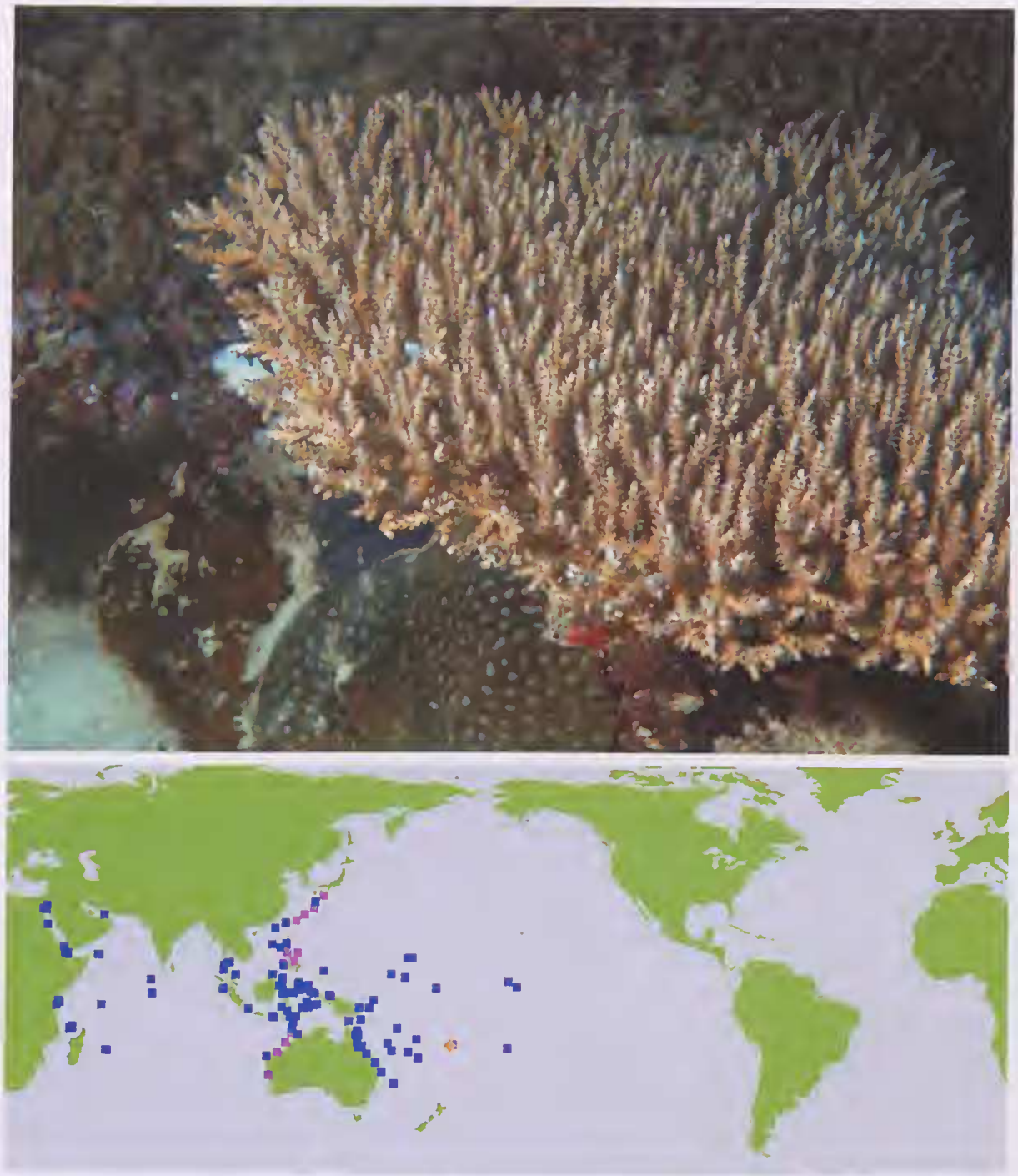


FIG. 100. *Acropora subulata*, G63262, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora suharsonoi Wallace, 1994

(Fig. 101)

Acropora suharsonoi Wallace, 1994: 937, fig. 12.

Type locality. Gilli Trawangan, Lombok, Indonesia.

MTQ Holdings. HOLOTYPE G47134, PARATYPES G47135, G47136 Indonesia; **Indonesia:** G48853–54, G51303, G51304 Bali; G50527 Flores.

Species group: *loripes*.

Description. ***Colony outline:*** indeterminate, predominantly plate. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.6–2.2 mm; inner diameter 0.6–0.8 mm; primary septa to 1 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: blunt irregular.

Further literature. Wallace (1997, 1999), Wallace & Wolstenholme (1998), Veron (2000).

FIG. 101. *Acropora suharsoni,* Indonesia (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora sukarnoi Wallace, 1997

(Fig. 102)

Acropora sukarnoi Wallace, 1997: 30, fig. 3.

Type locality. Lombongan Bay, SE Bali, Indonesia.

MTQ Holdings. HOLOTYPE G48832, PARATYPES G49284 Sumatra, G48827–31, G59036 Bali, G48493–502, G48559, G48833, G49285–86, G50103, G50528 Alor, Indonesia; **Sri Lanka:** G56352–55; **Thailand:** G56127; **Indonesia:** G49283, Sumatra; G50903 Nusa Tenggara; G59073 Flores; G63340 Sulawesi; **Australia:** G41150 Timor Sea.

Species group: *robusta*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.3–3.0 mm; inner diameter 0.7–1.5 mm; primary septa to 2/3 R. ***Radial corallites:*** large; two synapticular rings; two sizes; inner wall developed; shape: tubular; openings: dimidiate; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

FIG. 102. *Acropora sukarnoi*, G50103 Alor Islands, Indonesia, 1994 (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora tanegashimensis Veron, 1990

(Fig. 103)

Acropora tanegashimensis Veron, 1990: 109, figs 13–14.

Type locality. Sumiyoshi, Tanegashima, Japan.

MTQ Holdings. HOLOTYPE G32477; **Japan:** G62308, G62311–12, G62315, G62321–22, G62349, G62346–47.

Species group: *hyacinthus*.

Description. ***Colony outline:*** determinate, predominantly table. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.1–1.3 mm; inner diameter 0.6–0.8 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall not developed; shape: dimidiate/lipped; openings: oval-rounded; primary septa to ¾ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Sheppard & Sheppard (1991), Veron & Nishihira (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Chan *et al.* (2004), Nomura & Mezaki (2005).

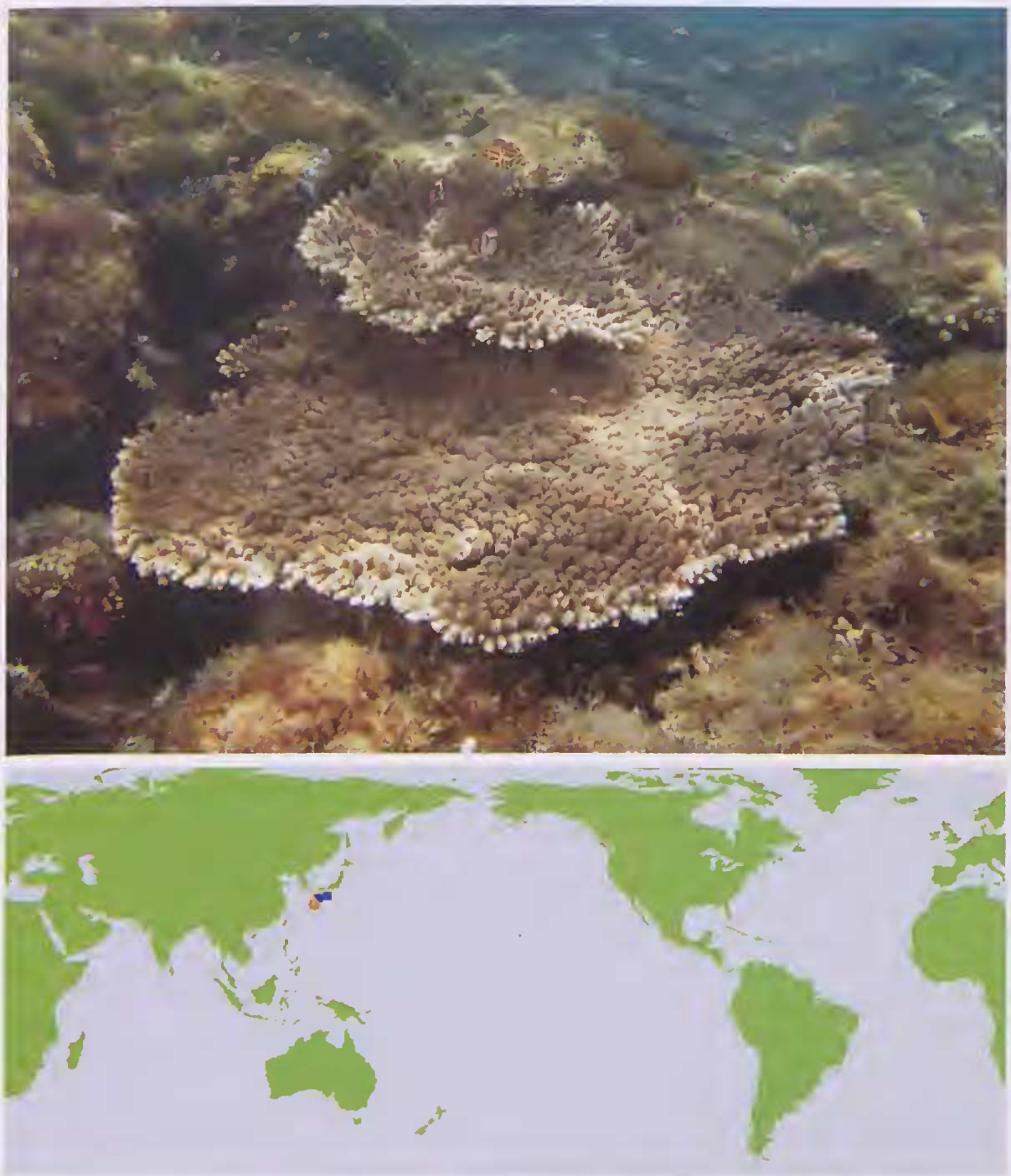


FIG. 103. *Acropora tanegashimensis*, G62315, Tanegashima Is. Japan, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora tenella (Brook, 1892)

(Fig. 104)

Madrepora tenella Brook, 1892: 464; 1893: 193, pl. 29 fig. E

Type locality. Macclesfield Bank, South China Sea (lectotype NHM).

MTQ Holdings. Indonesia: G56515, G59383 Sulawesi; G60744, G61226–27, G61254, G57096–97, G57107, G57111 Irian Jaya; **Palau:** G56875, G56915; **Papua New Guinea**: G39798, G53257, G61427; **Micronesia:** G62448–58, G62584–85 Pohnpei.

Species group: *elegans*.

Description. ***Colony outline:*** determinate, predominantly plate. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: <2.5 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.4–1.6 mm; inner diameter 0.5–0.8 mm; primary septa to ½ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa absent. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

FIG. 104. *Acropora tenella*, G62458, Pohnpei lagoon, Micronesia, 2010. (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora tenuis (Dana, 1846)

(Fig. 105)

Madrepora tenuis Dana, 1846: 451.
Madrepora macrostoma Brook, 1891: 464; 1893: 105, pl. 19 fig. B.
Madrepora bifaria Brook, 1892: 453; 1893 p.110, pl. 30 fig. A.
Madrepora kenti Brook, 1892: 458; 1893: 110, pl. 11 fig. B.
Acropora plana Nemenzo, 1967: 93, pl. 27 fig. 3.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Kenya: G58936; **Mayotte:** G63320, G63439; **Seychelles:** G47932, G49219, G51859–61, G59456; **Mauritius:** G51821–24, G51874, G54914–16; **Maldives:** G52000, G52079, G52097, G53032–33, G59756–57, G59867, G60260, G60315, G60338, G60340, G61623; **Chagos:** G51341–43, G51765, G51767; **Thailand:** G32800–01, G52645, G55955, G56477–83; **Malaysia**: G52626 mainland and islands; G40025 Sabah; **Indonesia:** G47164, G48639–43 Sumatra; G50772–73 Java; G52038 Bali; G50954 Nusa Tenggara; G48651–52 Alor; G47476 Lombok; G49821 Riau; G52055–56 Tukangbesi Islands; G50752–53 Seribu Is; G47029 Ambon; G48644–49 Flores; G39825, G50119–24 Kalimantan; G34175, G47462–75, G50105, G50112–18, G52039–43, G53737, G54300 Sulawesi; G52054 Molucca Sea; G52044–53 Halmahera; G36219, G46861–66, G46966 Banda Sea; G48650 West Timor; **Australia:** G48701–02, G51278, G52446, G52665, G60630, G60655, G61666 West; G48127, G51277 North; G27015, G27054, G27078, G27102–3, G27189, G27232, G27234–38, G27246–50, G27252–55, G27279–86, G27288–90, G27292, G27294–99, G27381, G27711, G28167, G28441–45, G28449–55, G28457, G29057–64, G29308, G29310, G29312–13, G29315–16, G29480, G29898–906, G29908, G29910–12, G30121, G31175, G32214, G32447–48, G32455–56, G34145, G34149, G34225, G34241, G35014–15, G35138–42, G39879, G40909, G41100–04, G47642, G48305, G48325, G49331, G51097, G54322, G57603, G58409, G60564, G60568, G63895, G64739, G64754 Great Barrier Reef; G29909, G60130–31, G64981 South-East; G27233, G27291, G27293, G28447, G29309, G29907, G35879, G60547, G63792 Coral Sea; **South China Sea:** G52158–66; **Japan:** G38033, G38041, G47787; **Taiwan:** G43841, G45839, G45941; **Palau:** G56632; **Guam:** G40735, G53634; **Papua New Guinea**: G35638, G35897–98, G53272–88; **Micronesia:** G40766–67, G40776 Yap; G37995, G40755, G40807, G40815, G62385–87, G62651 Pohnpei; **Solomon Is.:** G52602; **New Caledonia:** G33093, G35002; **Chesterfield Atoll:** G27287, G28448, G29311, G29314, G29317; **Marshall Is.:** G33146, G56161, G56231–32; **Fiji:** G40941; Cook **Is.:** G35929.

Species group: *selago*.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.8–3.4 mm; inner diameter 0.8–1.2 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to 2/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Turak & DeVantier (2011).

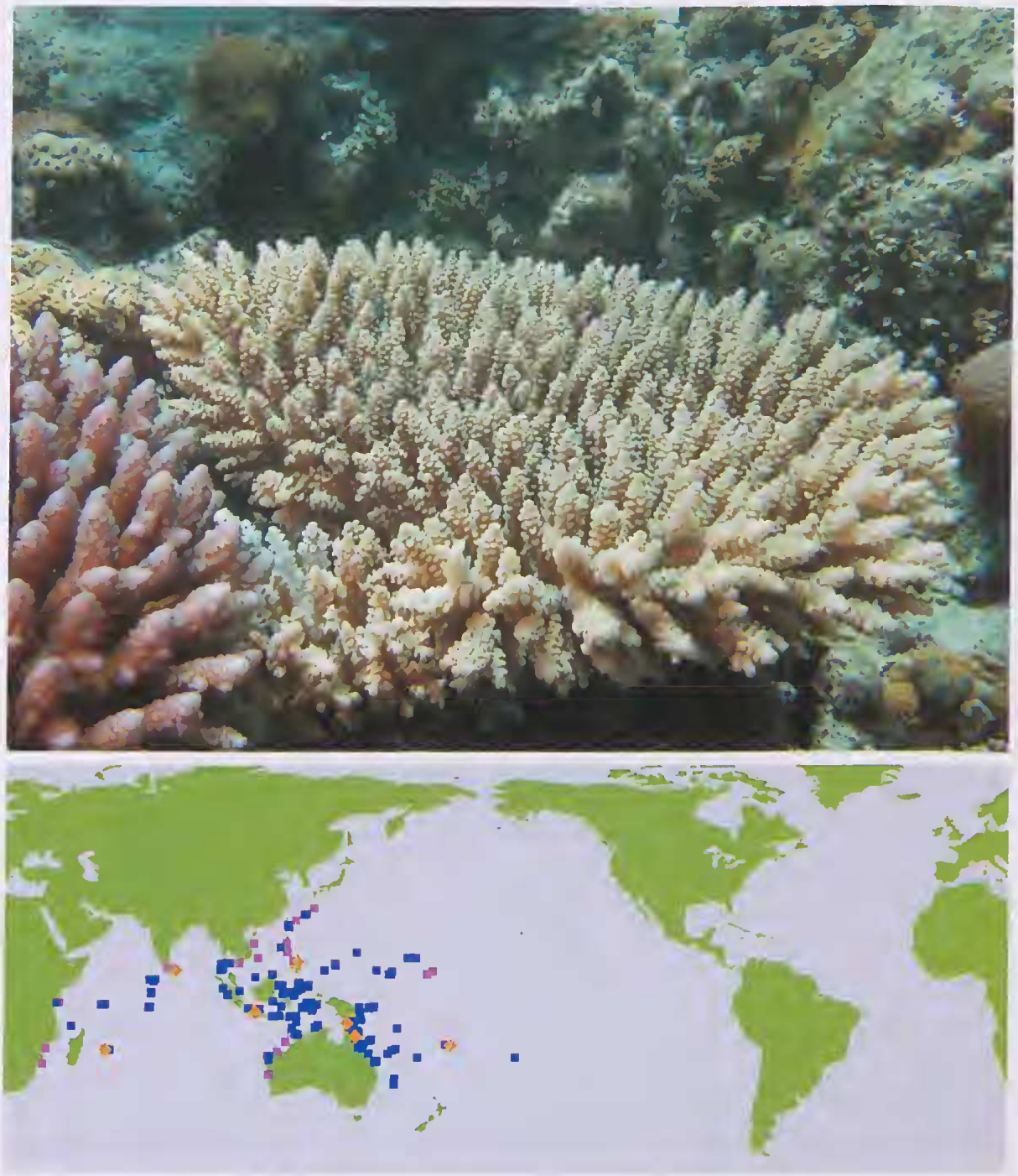


FIG. 105. *Acropora tenuis*, G59756, N. Vabbinfaru, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora torihalimeda Wallace, 1994

(Fig. 106)

Acropora torihalimeda Wallace, 1994: 983, fig. 24.

Type locality. Swains Reef, eastern Australia.

MTQ Holdings. HOLOTYPE G27200; **Australia:** G46095 East.

Species group: *elegans*.

Description. ***Colony outline:*** indeterminate, predominantly free living–arborescent. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: <2.5 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.4–1.4 mm; inner diameter 0.8–0.8 mm; primary septa to ½ R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa absent. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Wallace (1999), Veron (2000), Turak & DeVantier (2011).

FIG. 106. *Acropora torihalimeda* G46095 from Swains Reef, Great Barrier Reef, Australia, 2006 (specimen from sled sample at 63 m). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora tortuosa (Dana, 1846)

(Fig. 107)

Madrepora tortuosa Dana, 1846: 467, pl. 37 fig. 3.
Madrepora implicata Dana, 1846 p.466, pl. 37 fig. 2.

Type locality. Fiji (lectotype NMNH-SI).

MTQ Holdings. Indonesia: G57005; **Australia:** G34135, G64773 Great Barrier Reef; G33179–85, G33188, G33192, G34126–34, G34163, G34418–28, G35995, G51301, G54884, G56981, G58778, G59369–70, G60144–47, G60391 South-East; **Micronesia:** G41084, G62646; **Solomon Is.:** G35595–97; **New Caledonia:** G30929, G40886, G54685, G58696, G59167, G61208; **Marshall Is.:** G56150–51, G57154–61, G57225–31, G57335–38; **Kiribati:** G32868, G33112, G33114, G54803, G54822–23, G54965, G59674; **Fiji:** G58963–64; **Niue:** G35850; **Cook Is.:** G32857, G35701, G35704, G35719, G55541, G55542; **Austral Is.:** G32855.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 5.0–9.9 mm, radial-dominated, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.5–3.2 mm; inner diameter 1.0–1.3 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: blunt irregular.

Further literature. Wallace (1999), Veron (2000).

FIG. 107. *Acropora tortuosa*, G62646, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora tumida (Verrill, 1866)

(Fig. 108)

Madrepora tumida Verrill, 1866: 21.

Type locality. Hong Kong (syntypes NMNH-SI).

MTQ Holdings. Hong Kong: G61787–90; **Japan:** G62827–29, G62833–34, G62904.

Species group: not determined.

Description. ***Colony outline:*** indeterminate, predominantly caespitose to arborescent. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; porous; outer diameter 2.4–3.0 mm; inner diameter 1.2–1.4 mm; primary septa to 1 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall not developed; shape: appressed tubular; openings: oval-rounded; primary septa 2/3 to 1 R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: single point.

Taxonomic note. This species was not included in Wallace (1999) as no specimens were held at MTQ. Wallace & Wolstenholme (1998) did not collect this species in Indonesia although Veron (2000) indicates the species occurs throughout the archipelago.

Further literature: Veron (2000), Chan *et al.* (2004).

FIG. 108. *Acropora tumida*, Kushimoto, Japan, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora turaki Wallace, 1994

(Fig. 109)

Acropora turaki Wallace, 1994: 468, fig. 8.

Type locality. Rowley Shoals, Western Australia.

MTQ Holdings. HOLOTYPE G46446, PARATYPE G46447 Western Australia; **Thailand:** G52646 **Indonesia:** G49007–09 Bali; G49005–06 Kalimantan; G47701, G48680, G48855–63, G55426, G58791, G58792 Sulawesi; G52436–38 Halmahera; **Australia:** G46447, G56984–85; **Palau:** G60435, G60444; **Papua New Guinea:** G39736, G53317; **Micronesia:** G59297, G59641, G62350–54, G62712 Pohnpei; **Solomon Is.:** G58534–35, G58591.

Species group: *echinata*.

Description. ***Colony outline:*** indeterminate, predominantly hispidose. ***Branches:*** tertiary branching order present; length: 25–50 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.5–2.0 mm; inner diameter 0.4–0.8 mm; primary septa to 1/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa absent. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Wallace (1997, 1999), Wallace & Wolstenholme (1998), Veron (2000).

FIG. 109. *Acropora turaki G62354,* Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora valenciennesi (Milne Edwards & Haime, 1860)

(Fig. 110)

Madrepora valenciennesi Milne Edwards & Haime, 1860: 137.

Acropora splendida Nemenzo, 1967: 51 pl. 17 fig. 2.

Type locality. Ceylon (Sri Lanka) (holotype MNHN).

MTQ Holdings. Thailand: G56065–66, G61755–56; **Malaysia:** G52609, G57682, G57685, G59141, G59143 mainland and islands; G40020, G53925, G55026 Sabah; **Singapore:** G41029 **Indonesia:** G48967–69, G48995 Sumatra; G48978, G53873, G54023 Bali; G50902 Nusa Tenggara; G48972, G48997 Alor; G54039 Lomblen; G47856 Lombok; G35763, G35980 Maluku; G50898–99 Taka'bonerate; G50816–17 Ambon; G48979, G48996, G53874 Flores; G48976–77, G48980, G50900 Kalimantan; G48970 Semau; G35529, G47847–55, G48973–75, G48998–99, G49354, G50815, G50901, G53872, G54024 Sulawesi; G54025, G54038 Molucca Sea; G54026–37, G59100 Halmahera; G47843–46 Banda Sea; G48971 West Timor; G61004 Irian Jaya; **Australia:** G40844 West; G27052, G29560–62, G29564–69, G29810–13, G29815–17, G29819–20, G30194–95, G30353, G30390–92, G30394–96, G34192, G39876, G51151 Great Barrier Reef; G29563 Coral Sea; **Japan:** G47756; **Philippines:** G41561; **Palau:** G56854, G56878; **Guam:** G36599; **Papua New Guinea:** G35612, G35620, G35670, G53205–22, G53421, G53567, G59114 North; G40844 Timor Sea; **Solomon Is.:** G58580; **New Caledonia:** G58714, G58746; **Samoa:** G41283.

Species group: *muricata.*

Description. ***Colony outline:*** determinate, predominantly arborescent-table. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 10.0–19.9 mm, axial-dominated, tapering; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 2.0–3.5 mm; inner diameter 0.8–1.5 mm; primary septa to ½ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: no spinules.

Further literature. Veron & Nishihira (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

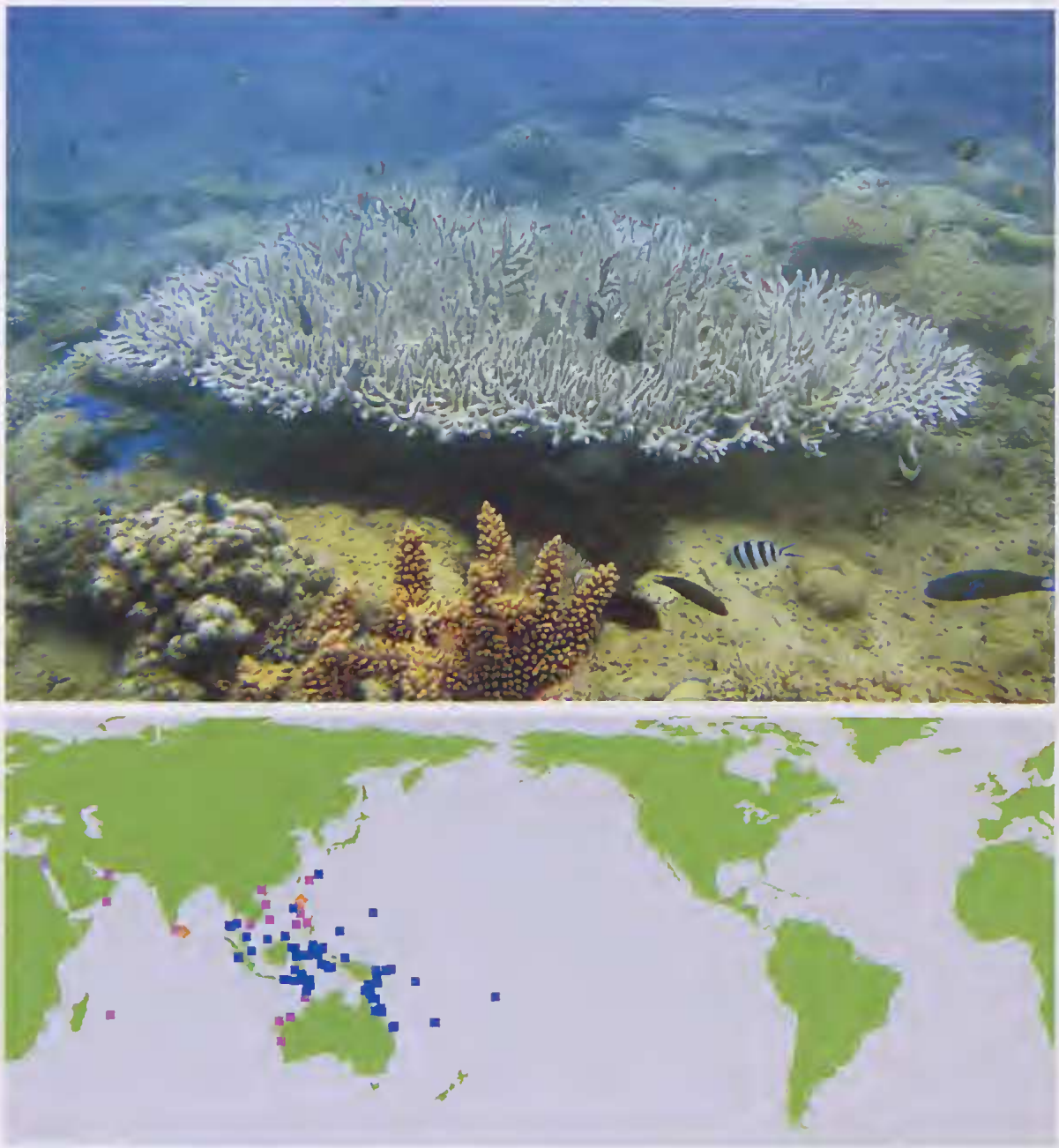


FIG. 110. *Acropora valenciennesi*, New Caledonia, 2007 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora valida (Dana, 1846)

(Fig. 111)

Madrepora valida Dana, 1846: 461, pl. 35 fig. 1.
Madrepora variabilis Klunzinger,1879: 17, pl. 1 fig. 10, pl. 2 figs 1, 5, pl. 5 figs 1, 3, pl. 9 fig. 14.
Madrepora coalescens Ortmann, 1889: 509, pl. 13 fig. 5.
Acropora dissimilis Verrill, 1902: 226, pl. 34 fig. 9.
Acropora paraphataonis Veron, 2000, vol. 1: 367; 2002: 56–57, figs 106–109.

Type locality. Fiji (holotype NMNH-Sl).

MTQ Holdings. G55786 HOLOTYPE of *A. paraphataonis* from Sharm al Shiekh, Egypt; **Red Sea:** G55254–55, G58686 Saudi Arabia; G54729–31, G54764–66, G54876–78, G55574, G58864–65 Yemen; **Oman:** G40953–54; **Socotra:** G56964, G57403; **Kenya:** G35575–78, G54920–23, G54935–36, G59610–21; Tanzania: G59731; **South Africa:** G41037–38; **Mayotte:** G63291–92, G63410–14, G63428, G63429; **Persian Gulf:** G54792 Saudi Arabia; **Seychelles:** G47944–46, G49211, G51856, G59438–39, G59441, G59443, G59449, G59489, G59491, G59499, G59517, G59538; **Mauritius:** G55571, G33217, G54533, G54892; **Maldives:** G52014–16, G52098–102, G53036–50, G59758, G59872–84, G59985, G60270, G60284, G60337, G60359, G60377, G61610; **Chagos:** G51358–61, G51750, G51754, G51756–59, G51766; **Sri Lanka:** G55228–29, G55576, G55761, G56327; **Thailand:** G32785, G32788, G32792, G32799, G52647, G53657, G55886–87, G56138, G56049–50, G59340, G59416, G59419, G61739–43; **Malaysia:** G54993, G57653, G57677 mainland and islands; G40190–91, G53894 Sabah; **Singapore:** G41019, G41032 **Indonesia:** G47172–74, G49580, G49715–17, G49723 Sumatra; G50787 Java; G49593–94, G54148, G59183, G59721, G59724 Bali; G50952–53 Nusa Tenggara; G49587–92, G50109, G50483 Alor; G49850–60 Riau; G54421–23, G54441–44 Tukangbesi Islands; G50740 Seribu Is; G36209, G47990–92, G49635–36, G50785–86 Ambon; G49581–84 Flores; G39819–20, G49600–04, G50596 Kalimantan; G35515–17, G47698–99, G47993–8007, G49579, G49595–99, G49911–12, G49919, G50108, G50110, G50455, G54149, G55437, G55438 Sulawesi; G54150–55, G54166–67 Molucca Sea; G52439–40, G54156–65 Halmahera; G47976–89, G48291, G49577–78, G49722, G50111 Banda Sea; G49585–86 West Timor; G60995, G61049, G61419 Irian Jaya; **Australia:** G36050, G40857–60, G47015, G47017, G48749–59, G52666–67, G60618, G60634, G60637, G60644, G60651, G61662, G61674, G61677, G63657, G64387, G64389, G64394 West; G48125, G51272, G58987 North; G27045, G27077, G27098, G27624–25, G27627–37, G27639–40, G27703, G27705–09, G27867, G28151, G28158, G28160, G28163–65, G29003–04, G29378, G29624–29, G29631–33, G29635, G30617–21, G30623, G30625–32, G30859, G30876–77, G30879–81, G30883–84, G30886–94, G31059–63, G31065, G31070–71, G31075, G31077–92, G31119, G31124, G31911, G32405, G32408–09, G34151, G34239–40, G34858–59, G34863–64, G34867–68, G36102, G37305, G37367, G40875, G40911, G41048–66, G41312, G43321–22, G43324–42, G43348, G47374–76, G47636–40, G48294–95, G48306, G48310, G48313, G48324, G48328, G49236–38, G49245, G50692–93, G51120–22, G51185, G52030, G54367–406, G54566–67, G55486, G57604–06, G57728, G58000, G58005–06, G58037, G58040, G58051, G58054–55, G58060–61, G58071, G58104, G58156–65, G58235–38, G58284–85, G58329–34, G58410, G58609–15, G59016, G60225, G60228, G63127, G64722 Great Barrier Reef; G28153, G28155, G28162, G28999–9000, G29375–77, G29380–84, G29630, G29634, G30333–34, G30604–05, G30622, G30885, G31066, G31073, G31076, G31110–18, G31120–23, G32407, G34862, G41077, G47282, G56976–77, G56979, G58424, G58426–27, G60096–97, G60141–43, G60413, G60448, G60452, G62811–12, G62826, G64954–56 South-East; G27704, G30616, G30882, G33502, G33506, G33518, G34238, G34861, G43343–47, G57636 Coral Sea; **South China Sea:** G46821, G52154, G52284, G52298, G52365–69; **Japan:** G35489, G38016, G38047, G38057, G38060, G47760–63, G47812, G62294, G62309, G62314, G62316–17, G62328, G62335–36, G62348, G62841, G62861–66, G62990–93, G62340–41; **Taiwan:** G35542, G45801, G45804, G45815, G45819–20, G45898–01, G45917–22, G45930–32, G45939, G46531, G47416, G47577–78, G47594, G47604–05, G58023–25; **Philippines:** G32812, G52334, G52371–73; **Palau:** G55002; **Guam:** G36598, G40742, G40745, G40747, G41175, G53642–45; **Papua New Guinea:** G35626, G35655, G35890–94, G36015, G53141–59, G53479–95 North: G40858 Timor Sea; **Micronesia:** G40693–97 Yap; G38007 Chuuk; G62410–12, G62504, G62792 Pohnpei; G62736, G62748–49, G62784–85 Kosrae; **Solomon Is.:** G52598; **New Caledonia:** G33087, G33101, G34955, G34966, G34984, G59166, G61022, G61221; **Chesterfield Atoll:** G28156, G28159, G31058, G31067, G31069, G38154; **Marshall Is.:** G33117–18, G33138, G33147, G37981, G47227, G56148, G57273–80; **Kiribati:** G51219, G54804–05, G54963, G54964, G55011, G58798–99; **Fiji:** G40931; **Samoa:** G33301–06, G34769, G34880, G36644, G38979, G41192, G43483, G43485, G43488, G54275–76; **Niue:** G54514, G54666; **Johnston Atoll:** G40989, G40991–93; **Hawaii:** G27086, G27087; **Line Is.:** G33115, G59342; **Cook Is.:** G35734, G35847, G36060, G55526–27, G59343; **Tahiti:** G53587–88; **Austral Is.:** G32856, G32872; **Pitcairn Is.:** G35744–45, G54630–33; **Colombia:** G27106.

Description. ***Colony outline:*** determinate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: 10.0–19.9 mm, radial-dominated, terete; radial crowding: most touching; axial/radial ratio: >1:10. ***Axial corallites:*** three synapticular rings;

not porous; outer diameter 1.6–2.8 mm; inner diameter 0.5–0.9 mm; primary septa to ½ R. ***Radial corallites:*** medium; three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: reticulate; spinule shape: laterally flattened.

Taxonomic note. *Acropora parapharaonis* is placed in synonymy following comparison of the holotype with the following specimens of *A. valida*: G61742 from Tae Nok Island, Thailand and G30630 from Brisk Island, Australia. All come from table-shaped colonies with short branches on the upper surface.

Further literature: Von Prahl & Mejia (1985), Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Pillay *et al.* (2002), Nomura & Mezaki (2005), Wallace *et al.* (2009), Turak & DeVantier (2011).

FIG. 111 *Acropora valida*, G62317, Tanegashima Island, Japan (photo: P. Muir). Map of documented distribution. Blue squares denote MTQ specimens, pink squares literature records and orange diamonds type localities of species and synonyms (where given).

Acropora variolosa (Klunzinger, 1879)

(Fig. 112)

Madrepora variolosa Klunzinger, 1879: 8, pl. 1 fig. 6, pl. 4 fig. 6, pl. 9 fig. 3.
Madrepora obtusata Klunzinger, 1879: 7, pl. 1 fig. 5, pl. 8 fig. 18a–b, pl. 9 fig. 2.
Madrepora klunzingeri Quelch, 1886: 158.
Acropora rufus Veron, 2000, vol. 1: 269; 2002: 46–48, figs 82–87.

Type locality. Koseir, Red Sea (holotype MNB).

MTQ Holdings. Red Sea: G55787 HOLOTYPE of *A. rufus*, G57766, G57779, G57791–92 Egypt; G54681, G54683, G54859, G54862, G55184–85, G55235–36, G58878–79 Saudi Arabia; G53550 Sudan; G62964–65, G62973 Yemen; **Maldives:** G59917, G60274.

Species group: *rudis*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 2.2–3.8 mm; inner diameter 0.7–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** large; greater than three synapticular rings; one size or graded; inner wall developed; shape: rounded tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Taxonomic note. *Acropora rufus* is placed in synonymy because the holotype (G55787) was compared with specimens G54683, G55185 and G58879 from the above holdings and its characters found to fall within the range of variation within the series (which was previously compared with the holotype in MNB).

Further literature. Wallace (1999), Pillay *et al.* (2002).

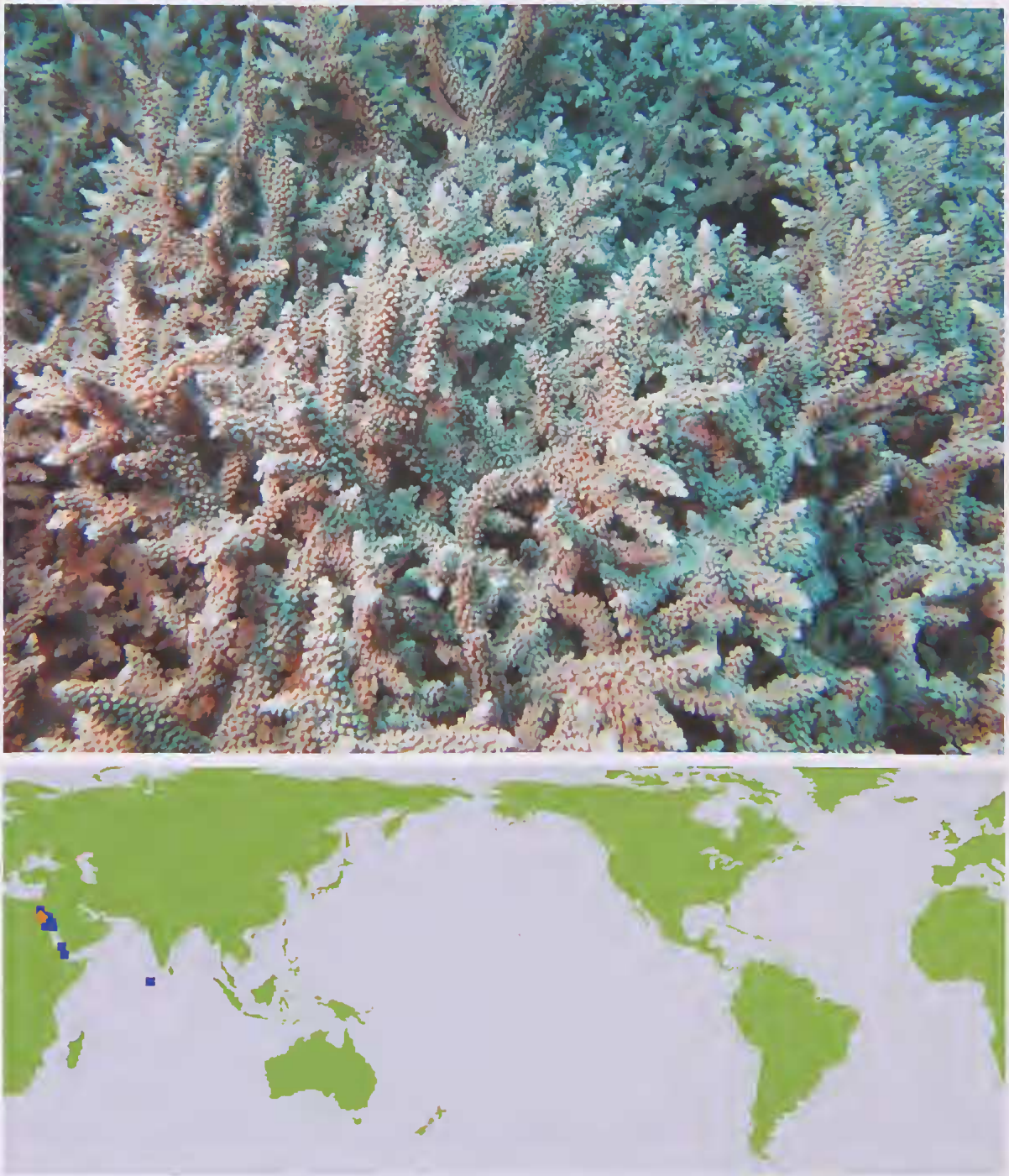


FIG. 112. *Acropora variolosa*, G59917, Maldives, 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora vaughani Wells, 1954

(Fig. 113)

Acropora vaughani Wells, 1954: 416, pl. 105 fig. 1, pl. 106 figs 1–8, pl. 107 figs 2–6.

Type locality. Bikini Atoll, Marshall Islands (holotype NMNH-SI).

MTQ Holdings. Red Sea: G55270, G58871 Saudi Arabia; G51940–43, G54857, G54880–83, G54891, G59155 Yemen; **Comoros:** G55090; **Mayotte:** G63430–31, G63444–52; **Seychelles:** G47955; **Mauritius:** G54462; **Maldives:** G60287; **Thailand:** G36138, G52648–49, G56075, G63003; **Malaysia:** G52625, G59150 mainland and islands; G41136 Sabah; **Indonesia:** G32852 Java; G53703 Bali; G54538 Kalimantan; G48344, G50699–01, G50822, G50937, G53700–02, G53869, G55518–19, G56018, G56616 Sulawesi; G53934–36 Halmahera; G47052 Banda Sea; G60772–75, G61253 Irian Jaya; **Australia:** G40468, G40854, G48780–81, G48921, G61668 West; G27030, G27071, G27972, G27974, G27979–84, G28010–18, G29468, G30668, G30670–72, G36044–45, G37404, G39956, G51296, G57884, G57988, G57993, G57997–98, G58074–75, G58239, G58335–38, G58411, G64616 Great Barrier Reef; G58777 South-East; **South China Sea:** G52249; **Japan:** G36908, G36911; **Philippines:** G41577–78; **Palau:** G56852, G56869, G56893; **Papua New Guinea:** G45793, G52752–54 North: G40854 Timor Sea; **Micronesia:** G38004 Chuuk; G59306–08, G59260–61, G59644, G59648, G62578–83, G62587, G62591, G62595, G62605, G62653–54, G62656–58, G62671–72, G62686, G62815, G62819 Pohnpei; **Solomon Is.:** G57922; **New Caledonia:** G40879, G40882, G54684, G59359, G61195, G61203, G61207, G61218; **Marshall Is.:** G56218–21, G57181–83, G58972; **Kiribati:** G33113; **Fiji:** G40937; **Tahiti:** G54695.

Species group: *horrida*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order present; length: >100 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 1.5–2.5 mm; inner diameter 0.5–1.1 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: tubular; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: blunt irregular.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Pillay *et al.* (2002), Turak & DeVantier (2011).

FIG. 113. *Acropora vaughani*, G63447, Mayotte, East Indian Ocean, 2010 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora verweyi Veron & Wallace, 1984

(Fig. 114)

Acropora verweyi Veron & Wallace, 1984: 191, figs 446, 449–450, 453.

Type locality. Magdelaine Cay, Coral Sea.

MTQ Holdings. HOLOTYPE G55076 Coral Sea; **Red Sea:** G58880 Saudi Arabia; **Comoros:** G55097; **Mayotte:** G63313–14, G63378–79, G63440; **Seychelles:** G47911–13, G51889; **Maldives:** G59868; **Thailand:** G56070, G56085–86, G61748; **Indonesia:** G59069–70 Sumatra; G59195 Java; **Australia:** G40461, G60658–59, G61687 West; G27074, G28958, G28963, G28966–67, G29743–69, G29772–73, G29809, G33318–20, G33322–24, G33326, G33328–47, G33349–53, G41067, G58008, G58107 Great Barrier Reef; G33321, G33348, G34237, G35801, G57486–87, G57827–28, G58488, G64983–84 South-East; G28959–60, G28962, G28965, G28968–69, G57637 Coral Sea; **South China Sea:** G52226–27; **Japan:** G47794; **Taiwan:** G43851, G45915–16; **Philippines:** G52333; **Palau:** G60204; **Guam:** G40733, G40736, G40744, G40746, G40861; **Micronesia:** G62539 Pohnpei; **Chesterfield Atoll:** G28961, G28970, G33325, G35688; **Marshall Is.:** G37548–49, G37966, G56223–24; **Kiribati:** G54974, G55004; **Samoa:** G34874, G41297, G56035; **Niue:** G35807, G36065–66, G54507–09; **Cook Is.:** G35707, G35711, G35928, G36059; **French Polynesia:** G39731, G58624; **Pitcairn Is.:** G54634–37, G63121.

Species group: *verweyi*.

Description. ***Colony outline:*** indeterminate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 2.8–3.5 mm; inner diameter 0.8–1.1 mm; primary septa to ¾ R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: rounded appressed; openings: oval-rounded; primary septa to ¾ R. ***Coenosteum:*** same on and between radials: open spinules; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Wallace *et al.* (2009).

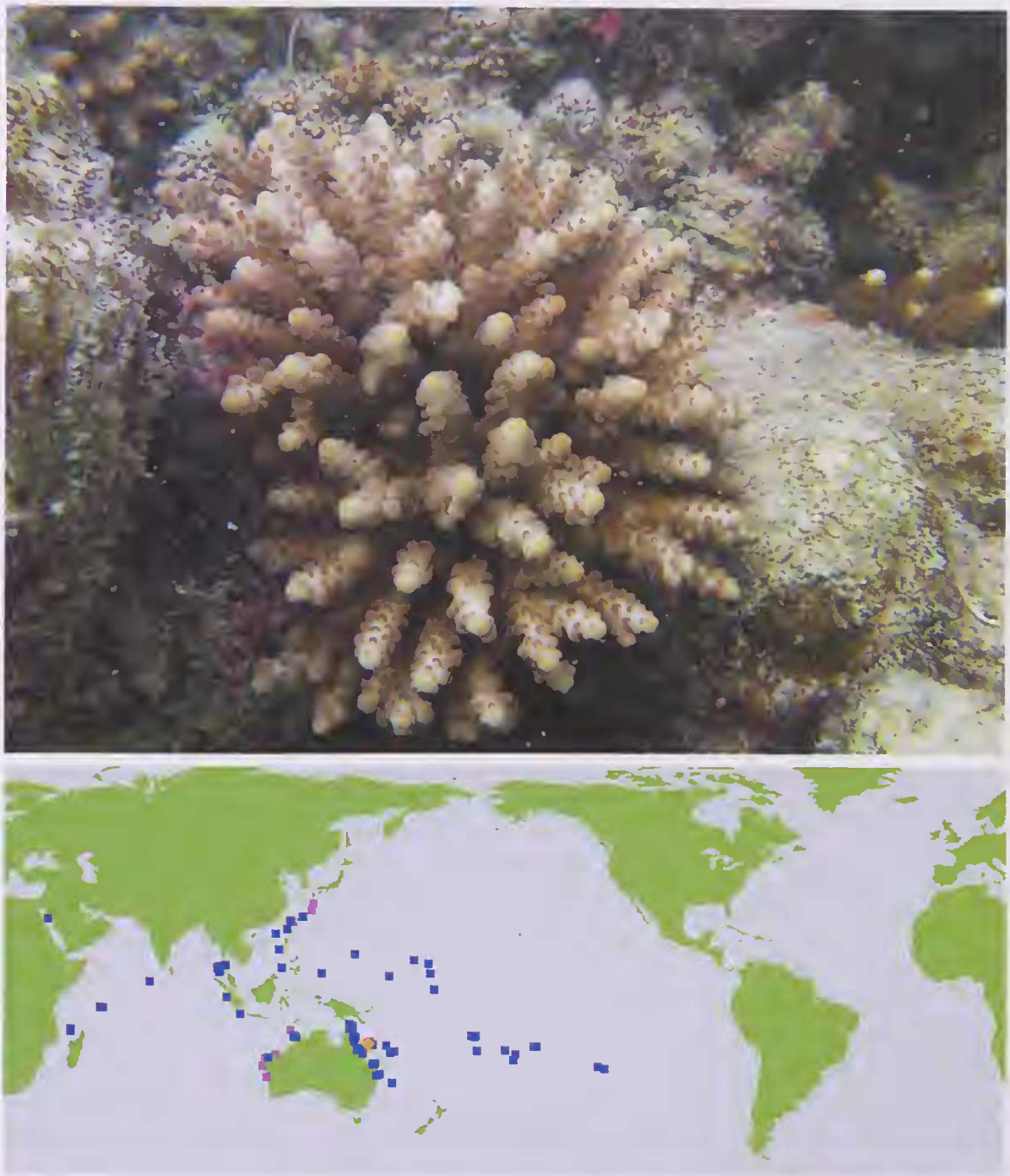


FIG. 114. *Acropora verweyi*, Lakshadweep Is., 2006 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora walindii Wallace, 1999

(Fig. 115)

Acropora walindii Wallace, 1999: 310, pl. 86.

Type locality. Kimbe Bay, West New Britain, Papua New Guinea.

MTQ Holdings. HOLOTYPE G54648, PARATYPES G53310, G54649–50 Papua New Guinea; **Indonesia:** G60743, G59377–80 Irian Jaya; **Micronesia:** G62626–28 Pohnpei.

Species group: *elegans*.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 25–50 mm; diameter: 2.5–4.9 mm, axial-dominated, terete; radial crowding: not touching; axial/radial ratio: <1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 1.0–1.3 mm; inner diameter 0.3–0.5 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; greater than three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: elaborate.

Further literature. Veron (2000).

FIG. 115. *Acropora walindii*, G62626, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora willisae Veron & Wallace, 1984

(Fig. 116)

Acropora willisae Veron & Wallace, 1984: 412, figs 1035–44.

Type locality. Britomart Reef, Great Barrier Reef, Australia.

MTQ Holdings. HOLOTYPE G49313 Great Barrier Reef, Australia; **Australia:** G29503, G29507, G47385, G57597 Great Barrier Reef; **Japan:** G51174; **Papua New Guinea:** G53599–08, G61732–33.

Description. ***Colony outline:*** indeterminate, predominantly corymbose. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: 2.5–4.9 mm, 50/50 axial/radial, terete; radial crowding: some touching; axial/radial ratio: <1:10. ***Axial corallites:*** two synapticular rings; not porous; outer diameter 0.9–2.6 mm; inner diameter 0.2–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** same on and between radials: open spinules; spinule shape: blunt irregular.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Nomura & Mezaki (2005), Turak & DeVantier (2011).

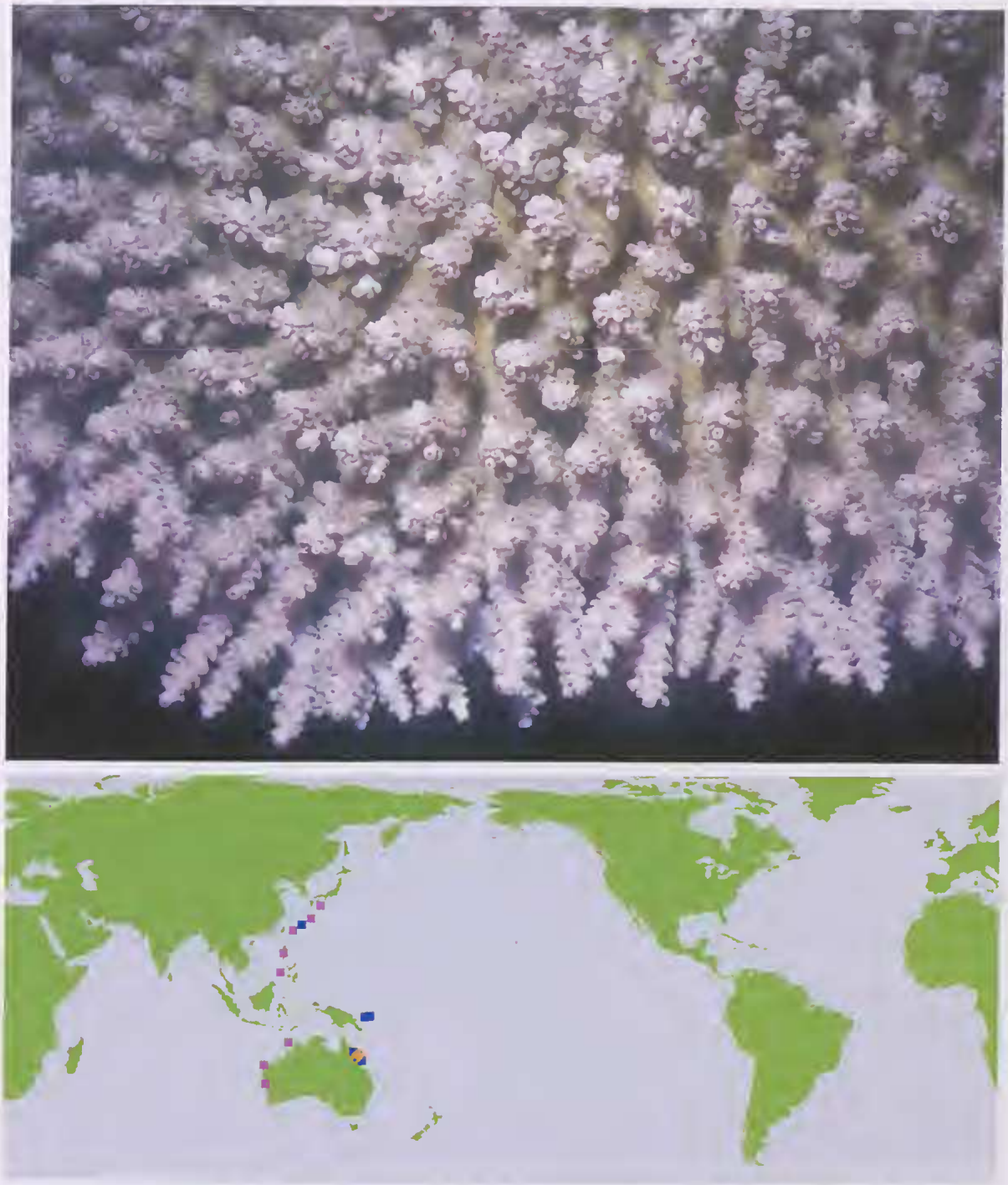


FIG. 116. *Acropora willisae,* Indonesia (photo: C. Wallace). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Acropora yongei Veron & Wallace, 1984

(Fig. 117)

Acropora yongei Veron & Wallace, 1984: 294, figs 719, 723.

Type locality. Britomart Reef, Great Barrier Reef, Australia.

MTQ Holdings. Holotype G55079 Great Barrier Reef, Australia; **Oman:** G40955; **Maldives:** G53034–35; **Chagos:** G51365, G54319; **Malaysia:** G53899 Sabah **Indonesia:** G59071 Sumatra; G50232, G50252–53, G59179 Bali; G50939–40 Nusa Tenggara; G50227–31, G50244–47 Alor; G47532, G47535 Lombok; G50745 Seribu Is; G36224 Ambon; G50224–26, G50941, G53858 Flores; G50238–41, G50250–51 Kalimantan; G50243 Semau; G34188, G47522–31, G47533–34, G47536, G50233–37, G50242–49, G50766–68, G50938, G54010–18, G56624, G58862, G59046, G59092 Sulawesi; G54021–22 Molucca Sea; G52441, G54019–20 Halmahera; G47484, G47515–21, G48160, G58950 Banda Sea; **Australia:** G40869 West; G27097, G27112, G27115, G27118–19, G27137, G27142–45, G27159, G27219, G27229–31, G29169, G29444–48, G29450–51, G29666–77, G29679–81, G30203, G30205, G41254–63, G49231, G51123, G58011, G60599, G61766 Great Barrier Reef; G27108–11, G27113–14, G27116–17, G27138–39, G27141, G27212–14, G27216–18, G27220–22, G27225–27, G59363, G60140, G60151, G62797–802, G64991 South-East; G33496, G27228 Coral Sea; **South China Sea:** G46825–26; **Japan:** G35486, G36825, G36829, G62997; **Taiwan:** G47586; **Philippines:** G41697, G52316; **Palau:** G36532, G56874, G56905; **Papua New Guinea:** G35639, G52851–62, G63136; **Louisiade Archipelago:** G35364, G35369; **New Caledonia:** G41112–14, G61020; **Kiribati:** G54979, G54990; **Johnston Atoll:** G40990, G40994.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: 5.0–9.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/ radial ratio: >1:10. ***Axial corallites:*** two synapticular rings; porous; outer diameter 1.8–3.5 mm; inner diameter 0.8–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** medium; two synapticular rings; one size or graded; inner wall developed; shape: dimidiate/lipped; openings: cochleariform; primary septa to ½ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: single point.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Turak & DeVantier (2011).

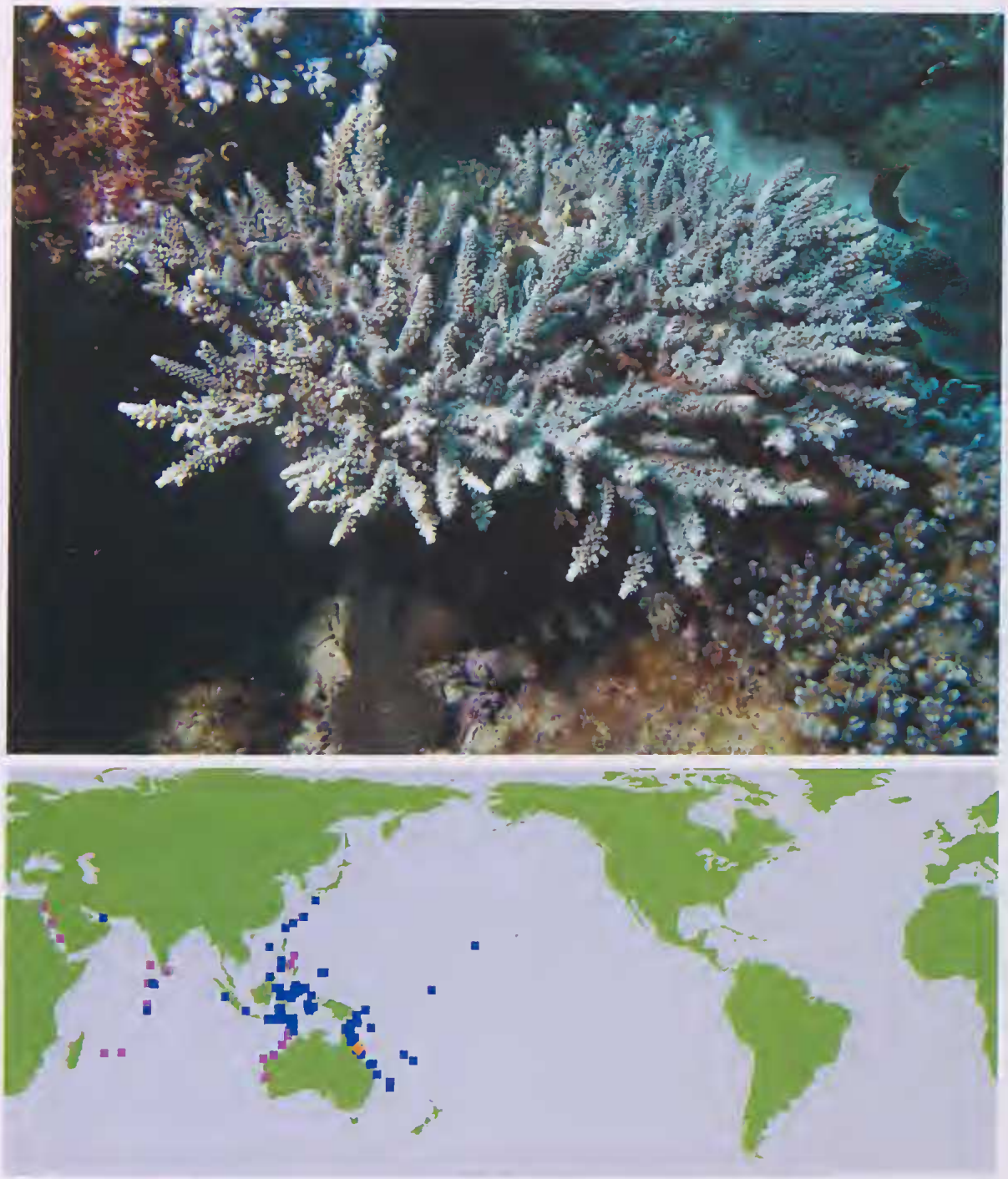


FIG. 117. *Acropora yongei*, G64991, Flinders Reef, East Australia, 2011 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Isopora Studer, 1878

Isopora Studer, 1878: 539.

Type species. *Astrea palifera* Lamarck, 1816 [as senior synonym of *Madrepora labrosa* Dana, 1846 as used by Studer (1878) as the type species].

Type locality. Southern Ocean (holotype MNHN-Z301a).

Diagnosis. Acroporidae with cuneiform, encrusting, or ramose colony form, with multiple axial or leading corallites, or some branches with more than a single axial corallite per branch, and numerous radial corallites. Coenosteum with elaborated meandroid spinules; columella and dissepiments absent. Polyps hermaphrodite, with oocytes and testes borne on separate mesenteries, mature oocytes contained in stalked extensions of the mesenterial filaments. Reproduction by release of sperm followed by internal fertilization and larval development. *Late Miocene to Recent.*

Further literature. Wallace *et al.* (2007), Budd & Wallace (2008), Budd & Wallace (2008)

Isopora brueggemanni (Brook, 1893)

(Fig. 118)

Madrepora brueggemanni Brook, 1893: 145, pl. 24, pl. 35 fig. E.
Acropora meridiana Nemenzo, 1971: 146, pl. 1 fig.3.

Type locality. Singapore (lectotype NHM).

MTQ Holdings. Thailand: G49069; **Malaysia:** G52631, G57657 mainland and islands; G41140–41 Sabah; **Singapore:** G45884; **Indonesia:** G46622–23, G48391–92, G58689; Sumatra; G46685 Java; G50908 Nusa Tenggara; G48398 Alor; G47461 Lombok; G49824–26 Riau; G51507–08 Tukangbesi Islands; G50746–48 Seribu Is; G50807 Ambon; G48393–97 Flores; G48936–38 Kalimantan; G35410–11, G46422, G46618–21, G47138–43, G47244–46, G48927–35, G50806, G51498–501, G59361–62 Sulawesi; G51502–06, G51667, G52402–04 Halmahera; G46230–32, G46235–39 Banda Sea; G60997–98, G61007 Irian Jaya; **Australia:** G40788, G40799, G48966, G60636, G61071–74, G64385 West; G39780, G46240, G48118–19, G49025 North; G28004–07, G28009, G28176–77, G28463–67, G28470, G28472–81, G28483–87, G28491, G28493–516, G28529, G28540, G28555, G31156, G47377–79, G48316, G57543, G58174–75, G58298, G60223, G60231, G60578, G62906 Great Barrier Reef; G28522 South-East; G39827 Coral Sea; **South China Sea:** G46419; **Japan:** G36826, G36910, G38035; **Philippines:** G32821, G41562–66, G41579, G41693, G45873; **Palau:** G36234, G36538, G56643, G60206; **Papua New Guinea:** G35907, G52863–74, G53563 North: G40799 Timor Sea; **Micronesia:** G40705–06, G40718, G40721–24 Yap.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, terete; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 2.9–4.5 mm; inner diameter 1.0–1.6 mm; primary septa to ¾ R. ***Radial corallites:*** large; greater than three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: oval-rounded; primary septa to 2/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: meandroid elaborate.

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

FIG. 118. *Isopora brueggemanni*, G62906, Ribbon Reefs, Great Barrier Reef, Australia, 2008 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Isopora crateriformis (Gardiner, 1898)

(Fig. 119)

Madrepora crateriformis Gardiner, 1898: 258, pl. 23 fig. 1.

Type locality. Ellice Islands (Tuvalu) (holotype NHM).

MTQ Holdings. Indonesia: G51551, G51553 Molucca Sea; G51554–56, G51558–59 Halmahera; G61008–10 Irian Jaya; **Australia:** G58435, G58802–26, G60094–95 South-East; **New Caledonia:** G58910; **Fiji:** G58827–28; **Samoa:** G36633, G38980, G38983, G63112.

Description. ***Colony outline:*** determinate, predominantly encrusting. ***Branches:*** tertiary branching order absent; length: <25 mm; diameter: >19.9 mm, axial-dominated, reverse tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 1.5–2.2 mm; inner diameter 0.5–0.8 mm; primary septa to 1/3 R. ***Radial corallites:*** large; greater than three synapticular rings; one size or graded; inner wall developed; shape: conical; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: meandroid elaborate.

Further literature: Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

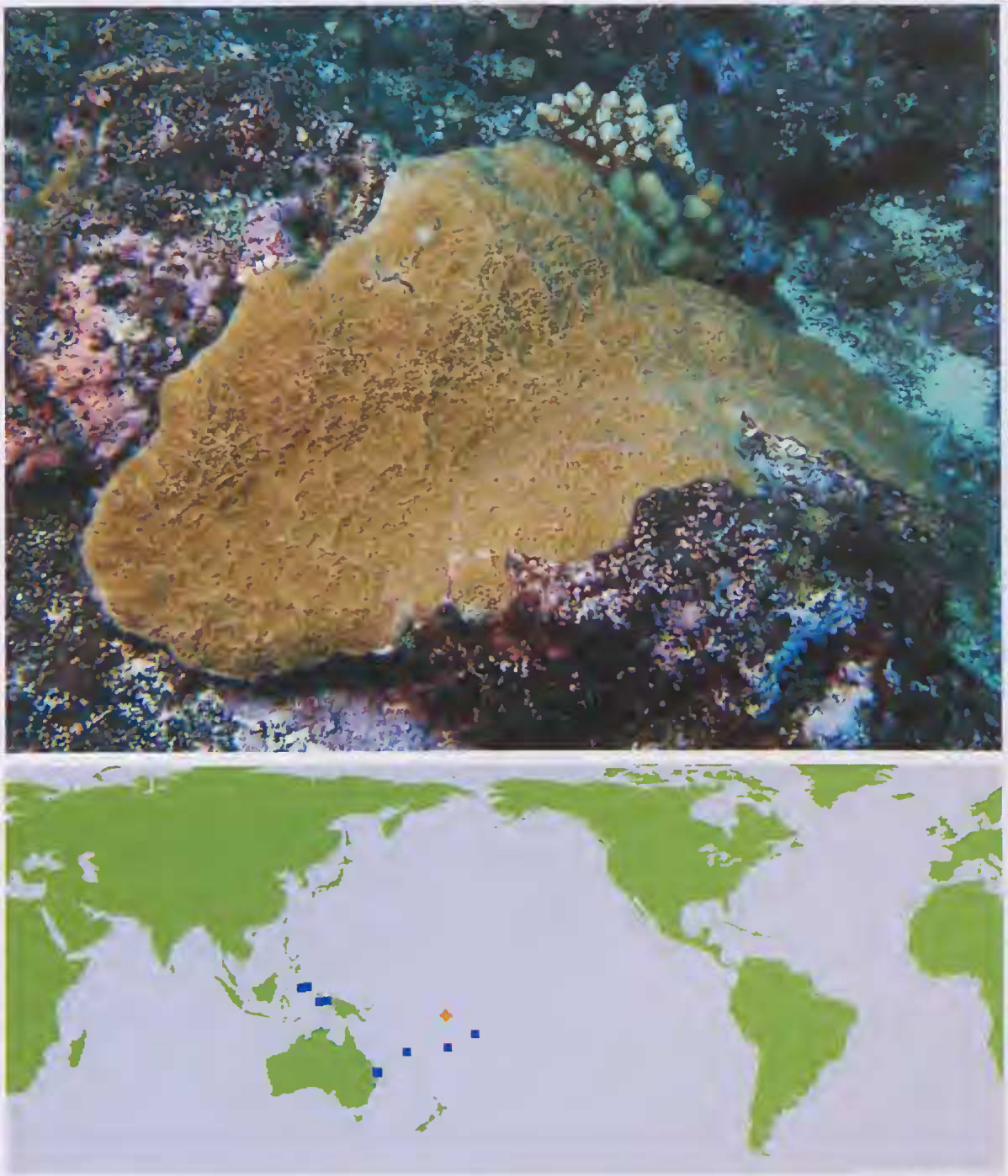


FIG. 119. *Isopora crateriformis*, Great Barrier Reef, 2011 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Isopora cuneata (Dana, 1846)

(Fig. 120)

Madrepora cuneata Dana, 1846: 487.
Madrepora securis Dana, 1846: 486, pl. 43 fig. 2.
Madrepora plicata Brook, 1891: 465; 1893: 134, pl. 9 fig. D.
Madrepora hispida Brook, 1891: 462; 1893: 133, pl. 9 fig. C.
Madrepora incrustans Rehberg, 1892: 35.
Acropora reclinata Nemenzo, 1967: 138, pl. 38 fig. 2.

Type locality. Fiji (holotype NMNH-SI).

MTQ Holdings. Indonesia: G57116–20 Sulawesi; G51549–50, G51552 Molucca Sea; G51557 Halmahera; **Australia:** G27810–11, G27814–25, G27827, G27918, G30317, G30904–7, G30909, G30911, G30914–15, G39858–63, G43400–29, G43443–47, G43452–56, G47333, G47354, G51152 Great Barrier Reef; G28531, G28534, G28537, G30318, G60015–24, G60148–50 South-East; G43430–42, G43448–51, G43592, G57623 Coral Sea; **Papua New Guinea**: G52755–57; **Micronesia:** G40764–65 Yap; G36609 Truk; G62404–05 Pohnpei; **Solomon Is.:** G58999; **New Caledonia:** G34971, G34980, G54848, G58709; **Chesterfield Atoll:** G27812, G27826, G30910, G30913, G30916–18, G30954; **Marshall Is.:** G37552, G37983; **Fiji:** G40944; **Samoa:** G43491–92.

Description. ***Colony outline:*** indeterminate, predominantly cuneiform. ***Branches:*** tertiary branching order absent; length: 50–100 mm; diameter: >19.9 mm, axial-dominated, reverse tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 1.5–3.1 mm; inner diameter 0.5–1.0 mm; primary septa to 2/3 R. ***Radial corallites:*** large; greater than three synapticular rings; one size or graded; inner wall developed; shape: conical; openings: oval-rounded; primary septa to 1/3 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: meandroid elaborate.

Taxonomic note. Although this species is reported to have a range extending well into the Indian Ocean (e.g. in Veron 2000, Pillay *et al.* 2002), we have yet to see a verified specimen of *A. cuneata* from the Indian Ocean, the most westerly distribution being in the Sulawesi Sea (Indonesia).

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Dai & Horng (2009), Wallace *et al.* (2009), Turak & DeVantier (2011).

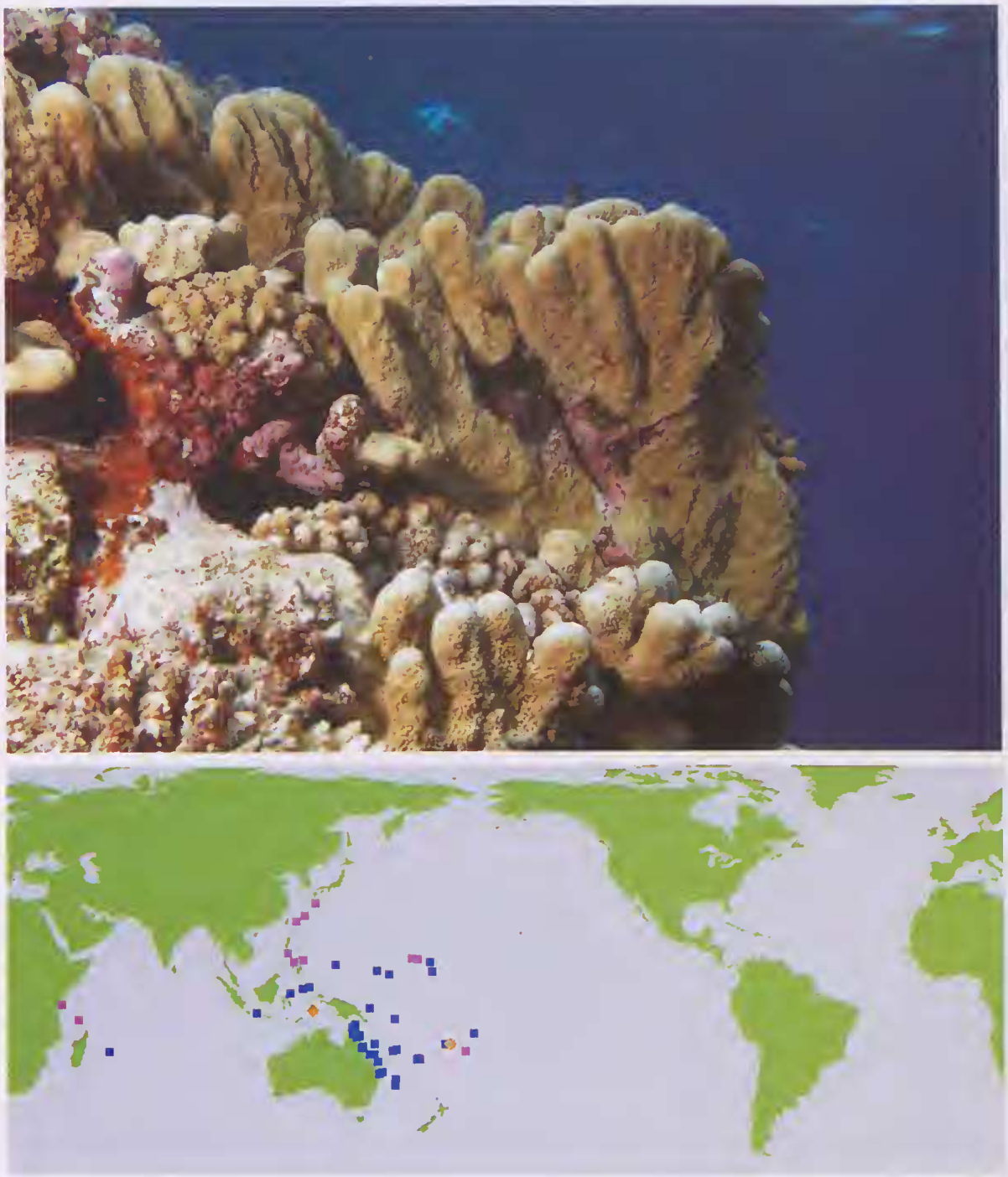


FIG. 120. *Isopora cuneata*, Pohnpei, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Isopora elizabethensis (Veron, 2000)

Acropora elizabethensis Veron, 2000, vol. 1: 188; 2002: 38–39, figs 65–68.

Type locality. Elizabeth Reef, Coral Sea.

MTQ Holdings. HOLOTYPE G55778 (see Table 2, p. 5).

Taxonomic note. This species is very similar *to I. palifera* and may be a synonym.

Isopora palifera (Lamarck, 1816)

(Fig. 121)

Astrea palifera Lamarck, 1816: 262.
Madrepora labrosa Dana, 1846: 486, pl. 43 fig. 3.
Madrepora turgida Verrill, 1866: 9.
Madrepora cylindrus Ortmann, 1892: 658.
Acropora prominens Nemenzo, 1967: 139, pl. 15 fig. 2.

Type locality. Southern Ocean (holotype MNHN).

MTQ Holdings. Socotra: G56951; **Mayotte:** G63202–06; **Seychelles:** G46420–21, G59471; **La Réunion:** G33211; **Maldives:** G52011, G59773–75, G60350–51; **Chagos:** G51344–48, G51764; **Thailand:** G56081–84; **Indonesia:** G46624, G48401–03, G48423 Sumatra; G32847 Java; G48879, G48903–04, G48925–26 Bali; G48390, G48414–22 Alor; G47459–60 Lombok; G35760 Maluku; G51575 Tukangbesi Islands; G48404–10 Flores; G48894–902 Kalimantan; G48413 Semau; G34176–78, G47146–58, G47208–09, G48880–93, G51560–61, G51576, G55461, G55469, G55477–78, G55715 Sulawesi; G51562–63, G51571–72 Molucca Sea; G51564–70, G51573–74 Halmahera; G46233–34, G46410–14 Banda Sea; G48411–12 West Timor; **Australia:** G40787 West; G28518–21, G28525, G28528, G28530, G28533, G28535–36, G28541, G28544– 48, G28553–54, G29473, G29602–03, G29605–06, G30320–21, G30323–24, G30326–27, G30361–63, G30365–66, G30369–76, G30378–79, G30381, G30385–87, G31157, G34233, G39857, G43349–76, G43381–93, G43397–99, G43577, G55481, G57600, G57983, G64638, G64718, G64747 Great Barrier Reef; G28517, G28523–24, G28526, G28543, G28549, G30322, G30384, G39456 South-East; G28527, G28538, G28542, G28550–51, G30328, G30359, G30367, G30377, G30380, G30382–83, G43377–80, G43394–96, G63802 Coral Sea; **Taiwan:** G35498, G45935, G45938; **Palau:** G36228–29, G56634, G60199; **Papua New Guinea:** G35908, G53160–76; **Micronesia:** G40727–28, G40763, G40770 Yap; G62403 Pohnpei; G62763–65 Kosrae; **New Caledonia:** G34956, G34983, G36016, G49044, G54846–47, G58719, G58745, G59165, G61029, G61030; **Chesterfield Atoll:** G30325, G30360, G30364, G30368, G31912, G38152, G38242; **Marshall Is.:** G56168–69, G56216; **Samoa:** G39455.

Description. ***Colony outline:*** indeterminate, predominantly cuneiform. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: >19.9 mm, axial-dominated, reverse tapering; radial crowding: some touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; not porous; outer diameter 2.8–4.2 mm; inner diameter 0.7–1.4 mm; primary septa to 1 R. ***Radial corallites:*** large; greater than three synapticular rings; one size or graded; inner wall developed; shape: appressed tubular; openings: dimidiate; primary septa to 1 R. ***Coenosteum:*** same on and between radials: dense spinules; spinule shape: meandroid elaborate.

Taxonomic note. This is the type species of *Isopora*. See Wallace *et al.* (2007).

Further literature. Nishihira & Veron (1995), Wallace & Wolstenholme (1998), Wallace (1999), Veron (2000), Dai & Horng (2009), Turak & DeVantier (2011).

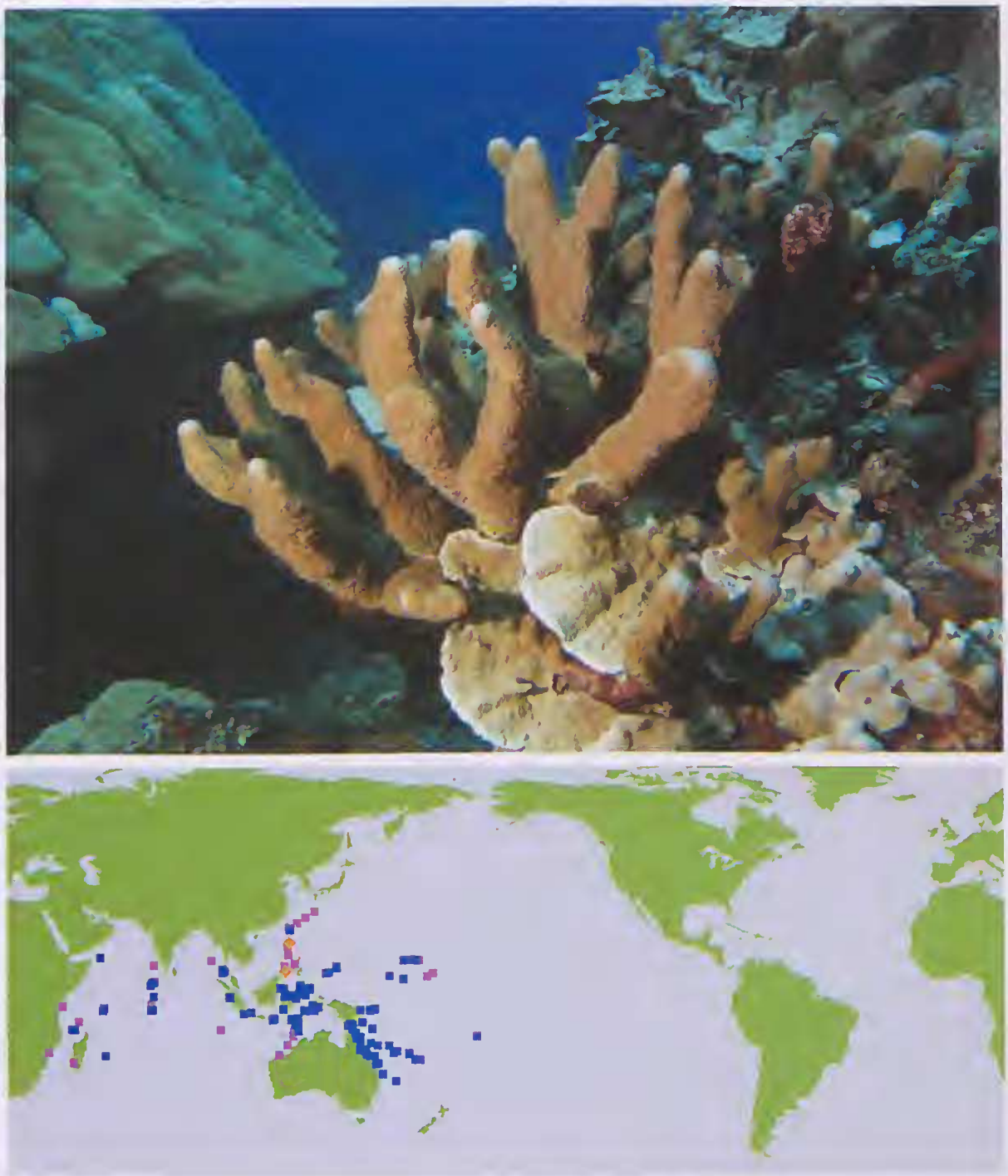


FIG. 121. *Isopora palifera*, Kosrae, Micronesia, 2009 (photo: P. Muir). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

Isopora togianensis (Wallace, 1997)

(Fig. 122)

Acropora togianensis Wallace, 1997: 43, fig. 13.
? Acropora cylindrica Veron & Fenner in Veron, 2000, vol. 1: 293; 2002: 40–41, figs 69–72.

Type locality. Pulau Talatakoh, Togian Islands, Sulawesi, Indonesia.

MTQ Holdings. HOLOTYPE, G48823; PARATYPES, G48821–22, G48824–26 Sulawesi, Indonesia; G55819, HOLOTYPE of *Acropora cylindrica*, Papua New Guinea; **Indonesia:** G55462–68, G55470–76, G59103, G59104, Sulawesi; G32837, Java.

Description. ***Colony outline:*** indeterminate, predominantly arborescent. ***Branches:*** tertiary branching order absent; length: >100 mm; diameter: >19.9 mm, 50/50 axial/radial, terete; radial crowding: not touching; axial/radial ratio: >1:10. ***Axial corallites:*** greater than three synapticular rings; no walls; outer diameter 5.8–9.1 mm; inner diameter 0.8–1.2 mm; primary septa to 2/3 R. ***Radial corallites:*** small; two synapticular rings; one size or graded; inner wall not developed; shape: immersed; openings: oval-rounded; primary septa to ¼ R. ***Coenosteum:*** different on and between radials: between radials: reticulate, on radials: costate; spinule shape: elaborate papillae.

Taxonomic note. *Acropora cylindrica* is a member of *Isopora* and is likely to be a synonym of *I. togianensis*. The holotype of *A. cylindrica* G55819, illustrated by Veron (2002: 41), has relatively short and slender branches and, as noted in Veron (2002), does not have the '*Montipora*-like tuberculae' described for *I. togianensis*. In this it compares with smaller specimens in MTQ holdings of *I. togianensis* from the type locality. For example, G55462, a juvenile 55 mm high, has no tuberculae; G59104, 140 mm long, has tuberculae only around its base; additionally, branch tips (to at least 30 mm) in most specimens of *I. togianensis* are free of tuberculae. At present, there are no other specimens of *I. cylindrica* from which to verify the synonymy.

Further literature: Wallace (1999), Veron (2000), Pillay *et al.* (2002), Chan *et al.* (2004), Nomura & Mezaki (2005), Dai & Horng (2009), Wallace *et al.* 2010, Turak & DeVantier (2011).

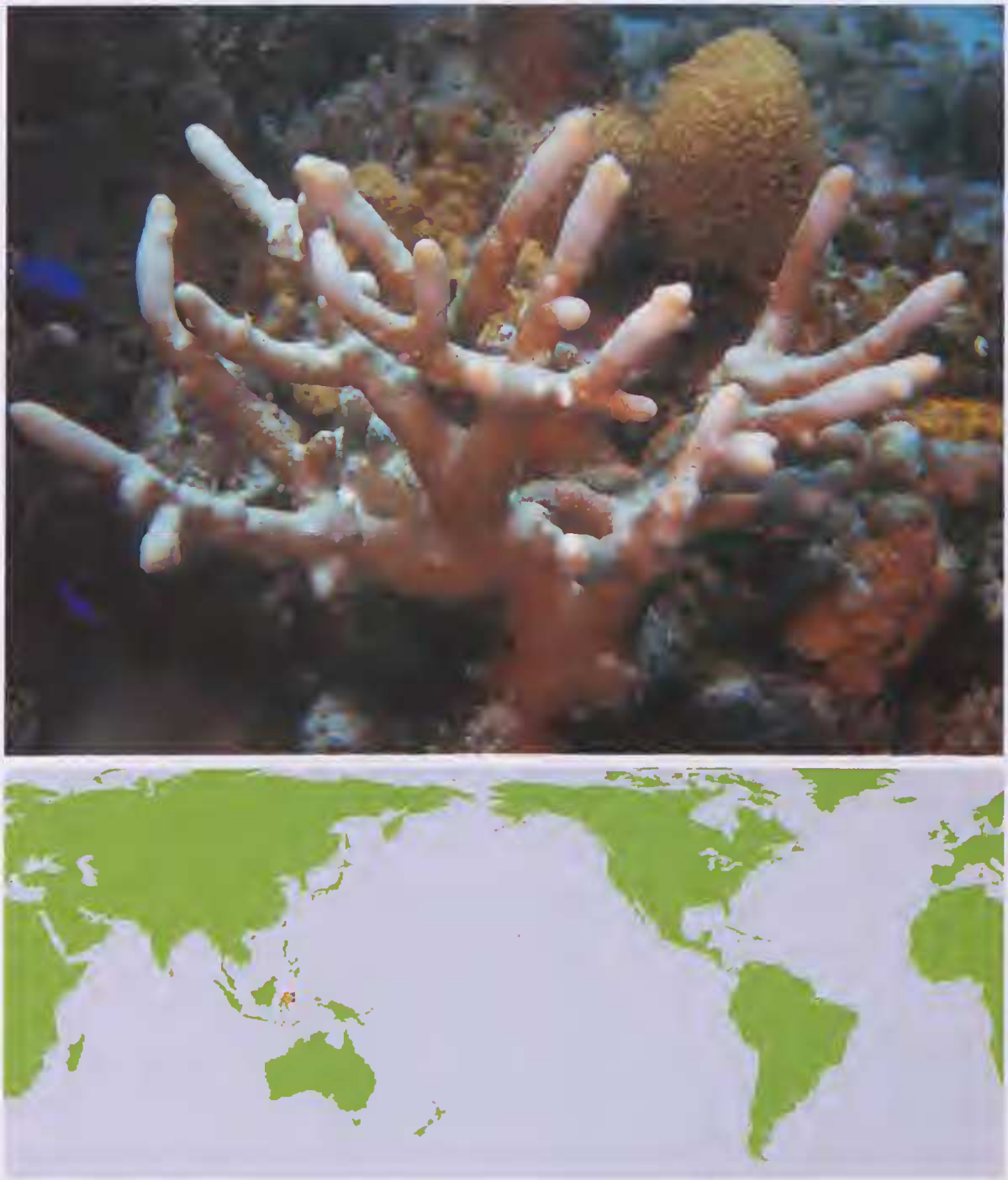


FIG. 122. *Isopora togianensis*, Togian Islands, Indonesia, 1999 (photo: B. Hoeksema). Map of documented distribution: blue squares = MTQ specimens; pink squares = literature records; orange diamonds = type localities (where given), including primary synonyms.

ACKNOWLEDGEMENTS

This publication celebrates the 25th Anniversary of the Museum of Tropical Queensland and the 150th Anniversary of the Queensland Museum. We thank our colleagues around the world for professional collaboration, and colleagues at MTQ and the broader QM for support. We pay tribute to the hundreds of volunteers who have assisted with tasks associated with the collections over 25 years, including, for this publication, M. Trenerry, L. Moodie, L. Qualacesky, M. Jaques, S. Mah, J. Mann and B. Boa. We thank B. Scott for text editing; M. Pichon for review of the manuscript; P. Ng of ICZN for advice on interpretation of the Code; S. Cairns, N. Budd, B. Rosen, J.E.N. Veron, M. Stafford-Smith, M. Kitahara, N. Bruce and P. Davie for nomenclatural advice and discussion; E. Turak, L. DeVantier, C.A. Chen, H. Fukami, M. Aw, N. Phongsuwan, Z. Richards and J. Wolstenholme for long-term involvement in the project. For research grants, funding, field support, or permission to research and collect corals we thank the Australian Research Council, Australian Academy of Science, Japan Society for the Promotion of Science, National Geographic, CITES, Environment Australia, Australian Biological Resources Study; government agencies, universities, research stations and dive operators in Indonesia, Lakshadweep (India), Maldives, Seychelles, Mayotte, la Réunion, Mauritius, Thailand, Malaysia, China, Japan, Taiwan, Lord Howe I., French Polynesia, New Caledonia, Pohnpei, Kosrae, Palau, Guam, Yap, Papua New Guinea. We also thank the Tara Expedition, F. Benzoni, N. Rosser, INPEC Company, Ocean and Environment, Census of Marine Life; Undersea Explorer, Banyan Tree Resorts, Kimbe Bay Resort, J. Romney, A. Dunstan, J.D. True, S. Piromvaragon, I. Fellegara, P. Harrison, T.J. Done, A. Noreen, R. Moothian-Pillay, B. and B. Koeneke, Gove, M. Adjeroud, G. Paulay, M. Erdmann, Huang Wei, P. Bongaerts, T. Bridge, A. Rajasurya, colleagues and staff at all the museums cited in methods; collectors and donors listed in the supplementary sites table) and for photographs: L. DeVantier, P. L. Harrison, B. Hoeksema, K. Hay, J. Lang, C. Sheppard and E. Turak.

LITERATURE CITED

Adjeroud, M., Pichon, M. & Wallace C.C. 2009. High latitude, high coral diversity at Rapa, in southernmost French Polynesia. *Coral Reefs* **28**: 459.

Babcock, R.C., Bull, G.D., Harrison, P.L., Heyward, A.J., Oliver, J.K., Wallace, C.C. & Willis, B.L. 1986. Synchronous spawnings of 105 scleractinian coral species on the Great Barrier Reef. *Marine Biology* **90**: 379–394.

Bassett-Smith, G.W. 1890. Report on the corals from the Tizard and Macclesfield Banks, China Sea. *Annals and Magazine of Natural History* 6(6): 353–374.

Bernard, H.M. 1900. Marine fauna of Christmas Is. Indian Ocean. *Proceedings of the Zoological Society London* **1901**: 115–141.

Bongaerts, P., Kline, D.I., Hoegh-Guldberg, O., Bridge, T.C.L., Muir, P.R., Wallace, C.C., Beaman, R.J., Faichney, I.D.E., Pizarro, O. & Mitchell, B.G. 2011. Mesophotic coral ecosystems on the walls of Coral Sea atolls. *Coral Reefs* **30**: 335.

Boschma, H. 1961. *Acropora* Oken, 1815 (Anthozoa, Madreporaria): proposed validation under the plenary powers. *Bulletin of Zoological Nomenclature* **18**: 334–335.

Bridge, T.C.L., Fabricius, K.E., Bongaerts, P., Wallace, C.C., Muir, P.R., Done, T.J., & Webster, J.M. 2012. Diversity of Scleractinia and Octocorallia in the mesophotic zone of the Great Barrier Reef, Australia. *Coral Reefs* **31**: 179–189.

Bromfield, K. & Pandolfi, J.M. 2011. Regional patterns of evolutionary turnover in Neogene coral reefs from the central Indo-West Pacific Ocean. *Evolutionary Ecology* **26**: 375–391.

Brook, G. 1891. Descriptions of new species of *Madrepora* in the collections of the British Museum. *Annals and Magazine of Natural History* 8(6): 458–471.

1892. Preliminary descriptions of new species of *Madrepora* in the collections of the British Museum. Part II. *Annals and Magazine of Natural History* **10**(6): 451–465.

1893. The genus *Madrepora*. *Catalogue of the Madreporarian Corals in the British Museum (Natural History)* **1**: 1–212.

Brüggemann, F. 1877. Neue Korallen-Arten aus dem Rothen Meer und von Mauritius. *Abhandlingen herausgegeben vom naturwissenschaftlichen Vereine zu Bremen* **5**: 395–400.

1879. Corals in Zoology of Rodriguez. *Philosophical Transactions of the Royal Society of London, Biological Science. Serics B* **168**: 569–579.

Budd, A.F. & Wallace, C.C. 2008. First record of the Indo-Pacific reef coral genus *Isopora* in the Caribbean region: Two new species from the Neogene of Curaçao, Netherlands Antilles. *Palaeontology* **51**: 1387–1401.

Cabioch, G., Wallace, C.C., McCulloch, M.T., Zibrowius, H., Laboute, P. & Richer de Forges, B. 2011. Disappearance of *Acropora* from the Marquesas (French Polynesia) during the last deglacial period. *Coral Reefs* **30**: 1101–1105.

Cairns, S.D. 2001. Beautiful reef builders. *Science* **292**: 1492.

Carpenter, K.E., Harrison, P.L., Hodgson, G., Alsaffar, A.H. & Alhazeem, S.H. 1997. *The Corals and Coral Reef Fishes of Kuwait*. (Kuwait Institute for Scientific Research: Kuwait). 166 pp.

Carpenter, K.E., Abrar, M., Aeby, G., Aronson, R.B., Banks, S., Bruckner, A., Chiriboga, A., Cortes, J. *et al.* 2008. One-third of reef-building corals face elevated extinction risk from climate change and local impacts. *Science* **321**: 560–563.

Chan, A.L., Choi, C.L., McCorry, D., Chan, K.K., Lee, M.W. & Put, A. 2004. *Field Guide to Hard Corals of Hong Kong*. (Agriculture, Fisheries and Conservation Dept.: Hong Kong). 373pp.

Chen, I.-P., Tang, C.-Y., Chiou, C.-Y., Hsu, J.-H., Wei, N.V., Wallace, C.C., Muir, P., Wu, H. & Chen, C.A. 2009. Comparative analyses of coding and non-coding DNA regions indicate that *Acropora* (Anthozoa: Scleractina) possesses a similar evolutionary tempo of nuclear vs. mitochondrial genomes as in plants. *Marine Biotechnology*. **11**: 141–152.

Chevalier, J-P. 1961. Recherches sur les Madréporaires et les formations récifales Miocenes de la Méditerranée Occidentale. *Mémoires de la Société Géologique de France* 93: 493–502.

China, W.E. 1963. Opinion 674: *Acropora* Oken,1815 (Anthozoa, Madreporaria): Validated under the plenary powers. *Bulletin of Zoological Nomenclature* 20: 319–330.

Connell, J.H., Hughes, T. & Wallace, C.C. 1997. A 30-year study of coral abundance, recruitment, and disturbance at several scales in space and time. *Ecological Monographs* **67**: 461–488.

Connell, J.H., Hughes, T.P., Wallace, C.C., Tanner, J.E. & Harms, K.E. 2004. A long term study of competition and diversity of corals. *Ecological Monographs* **74**: 179–210.

Crossland, C. 1952. Madreporaria, Hydrocorallinae, *Heliopora* and *Tubipora*. *Scientific Reports on the Great Barrier Reef Expedition* 1928–29. 6(3): 85–257.

Dai, C.-F. & Horng, S. 2009. *Scleractinia Fauna of Taiwan. I. The Complex Group*. (National Taiwan University: Taipei: Taiwan). 172 pp.

Dana, J.D. 1846. Zoophytes. *United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842, under the command of Charles Wilkes, U.S.N.* 7: 1–740.

Donner, S. 2008 Predictions for the future of the Caribbean. Pp. 129–134. *In*, Wilkinson, C. & Souter, D. (Eds), *Status of Caribbean coral reefs after bleaching and hurricanes in 2005*. (Global Coral Reef Monitoring Network and Reef and Rainforest Research Centre: Townsville). 152 pp.

Duchassaing, P. & Michelotti, J. 1860. Mémoire sur les Coralliaires des Antilles. *Mémoires de l'Académie des Sciences de Turin série 2*. **19**: 56–87.

Eguchi, M. & Shirai, S. 1977. *In*, Shirai, S., *Ecological encyclopedia of the marine animals of the Ryukyu Islands*. (Okinawa Kyoiku Shuppan: Japan). 636 pp.

Ehrenberg, C.G. 1834. Beiträge zur physiologischen Kenntniss der Corallenthiere im allgemeinen, und besonders des Rothen Meeres, nebst einem Versuche zur physiologischen Systematik derselben. *Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin* **1**: 225–380.

Fabricius, K.E. 2005. Effects of terrestrial runoff on the ecology of corals and coral reefs: review and synthesis. *Marine Pollution Bulletin*, **50**: 125–146.

Fosså, S.A. & Nilsen, A.J. 1998. *The Modern Coral Reef Aquarium, Volume* 2. (Birgit Schmettkamp Verlag: Germany). 480 pp.

Fukami, H., Omori., M. & Hatta, M. 2000. Phylogenetic relationships in the coral family Acroporidae, reassessed by inference from the mitochondrial genes. *Zoological Sciences* **17**: 689–696.

Fukami, H., Chen, C.A., Budd, A.F., Collins, A., Wallace, C., *et al.* 2008. Mitochondrial and nuclear genes suggest that stony corals are monophyletic but most families of stony corals are not (Order Scleractinia, Class Anthozoa, Phylum Cnidaria). *PLoS ONE* 3(9): e3222.

Gardiner, J.S. 1898. On the perforate corals collected by the author in the South Pacific. *Proceedings of the Zoological Society London* 66: 257–276, pls 23–24.

Gardner, T.A., Côte, I.M., Gill, J.A., Grant, A. & Watkinson, A.R. 2003. Long-term region-wide declines in Caribbean corals. *Science* **301**: 958–960.

Harriott, V. J. & Banks, S.A. 2002. Latitudinal variation in coral communities in eastern Australia: a qualitative biophysical model of factors regulating coral reefs. *Coral Reefs* **21**: 83–94.

Harrison, P. L. 2011. Sexual reproduction of scleractinian corals. Pp. 59–85. In, Dubinsky, Z. & Stambler, N. (Eds), Coral Reefs: An Ecosystem in Transition, Part 3. (Springer: Netherlands). 552 pp.

Hodgson, G. & Carpenter, K. 1995. Scleractinian corals of Kuwait. *Pacific Science* 49: 227–246.

Hoffmeister, J.E. 1925. Some corals from American Samoa and the Fiji Islands. *Papers from the Department of Marine Biology of the Carnegie Institution for Science, Washington* **22**: 1–90.

Horn, H. 1861. Description of new corals in the Museum of the Academy. *Proceedings of the Academy of Natural Sciences of Philadelphia* **1860**: 435–436.

International Commission of Zoological Nomenclature. 1999. *International Code of Zoological Nomenclature.* Fourth Edition. (International Trust for Zoological Nomenclature: London). 306 pp.

International Commission of Zoological Nomenclature. 2011. Coral taxon names published in 'Corals of the world' by J.E.N. Veron (2000): potential availability confirmed under Article 86.1.2. *Bulletin of Zoological Nomenclature* **68**(3): 162–166.

Kenyon, J.C. 1997. Models of reticulate evolution in the coral genus *Aeropora* based on chromosome numbers: parallels with plants. *Evolution* **5**: 756–767.

Klunzinger, C.B. 1879. *Die Korallenthiere des Rothen Meeres.* Gutmann: Berlin. 2, 1–88, pl. 1–10; 3: 1–100, pl. 1–10.

Lamarck, J.B.P 1816. *Histoire naturelle des Animaux sans vert bres. Tome 2* (Verdi re: Paris). 568 pp.

Latypov, Y.Y. 1992. Scleractinian corals of Vietnam. Part II. Acroporidae. *Marine Scienee*: 133. (in Russian).

Linnaeus, C. 1758. *Systema Naturae I Regnum Animale.* (Cura Societatis Zoologi Germani : Lipsi). Editio decima.

Loya, Y., Sakai, K., Nakano, Y. & Van Woesik, R. 2001 Coral bleaching: the winners and the losers. *Ecology Letters* **4**: 122–131.

Mangubhai, S. & Harrison P.L. 2006. Seasonal patterns of coral reproduction on equatorial reefs in Mombasa, Kenya. Pp. 106–114. *In*, Suzuki, Y., Nakamori, T. *et al.* (Eds), *Proceedings of the 10th International Coral Reef Symposium, Okinawa, Japan, Volume 1.*

2008. Asynchronous coral spawning patterns on equatorial reefs in Kenya. *Marine Ecology Progress Series* **360**: 85–96.

2009. Extended breeding seasons and asynchronous spawning among equatorial reef corals in Kenya. *Marine Ecology Progress Series* **374**: 305–310.

Marshall, P.A. & Baird, A.H. 2000. Bleaching of corals on the Great Barrier Reef: differential susceptibilities among taxa. *Coral reefs* **19**: 155–163.

McMillan, J. & Miller, D.J. 1988. Restriction analysis and DNA hybridization applied to the resolution of *Aeropora nobilis* and *Aeropora formosa*. Pp. 775–777. *In*, Choat, J.H. *et al.* (Eds), *Proceedings of the 6th International Coral Reef Symposium, Townsville. Australia, Volume* 2.

1989. Nucleotide sequences of highly repetitive DNA from scleractinian corals. *Gene* **83**: 185–186.

1990. Highly repeated DNA sequences in the scleractinian coral genus *Acropora*: evolution of cloned repeats as taxonomic probes. *Marine Biology* **104**: 483–487.

Milne Edwards, H. & Haime, J. 1860. *Histoire naturelle des coralliaires ou polypes proprement dits. Tome 3. Suite de la seetion des Madréporaires apores.* (Librairie Encyclopédique de Roret: Paris). 326 pp.

Nakamura, E., Yokohama, Y. & Tanaka, J. 2004. Photosynthetic activity of a temperate coral *Acropora pruinosa* (Scleractinia, Anthozoa) with symbiotic algae in Japan. *Phycology Researeh* **52**: 38–44.

Nemenzo, F. 1967. Systematic studies on Philippine shallow-water Scleractinians: V. Suborder Astrocoeniida (*Montipora* and *Acropora*). *Natural and Applied Science Bulletin* **18**: 193–223.

1971. Systematic studies on Philippine shallow--water scleractinians: VII Additional forms. *Natural and Applied Seienee Bulletin* **23**: 142–185.

1976. Some new Philippine scleractinian reef corals. *Natural and Applied Seienee Bulletin* **28**: 229–276.

Nishihira, M. & Veron, J.E.N. 1995. *Hermatypic Corals of Japan.* (Kaiyusya: Japan). 439 pp.

Nomura, K. & Mezaki, T. 2005. Reef building corals from Otsuki, Kochi Prefecture, Japan. *Kuroshio Biosphere* **2**: 29–41.

Noreen, A.M.E. 2010. Ecological and evolutionary connectivity of reef corals in subtropical eastern Australia: implications for the persistence of high-latitude coral populations. PhD thesis, Southern Cross University, Lismore, Australia.

Oken, L. 1815. Steinkorallen. *Lehrbneh Naturgeschiehte* **3**: 59–74.

Ortmann, A. 1888. Studien über Systematik und geographische Verbreitung der Steinkorallen. *Zoologische Jahrbücher (Jena) Abteilung für Systematik, Geographie und Biologie der Thiere* **3**: 143–188, pl. 6.

1889. Beobachtungen an Steinkorallen von der Sudküste Ceylons. *Zoologische Jahrbücher (Jena) Abteilung für Systematik, Geographie und Biologie der Thiere* 4: 493–590, pls 11–18.

1892. Die Korallriffe von Dar-es-Salaam und Umgegend. *Zoologische Jahrbüeher (Jena) Abteilung für Systematik, Geographie und Biologie der Thiere* 6: 631–670, pl. 29.

Perrin, C. & Bosellini, F.R. 2012. Paleobiogeography of scleractinian reef corals: Changing patterns during the Oligocene–Miocene climatic transition in the Mediterranean. *Earth-Science Reviews* **111**: 1–24.

Phongsuwan, N. 1998. Extensive coral mortality as a result of bleaching in the Andaman Sea in 1995. *Coral Reefs* **17**: 70.

Pichon, M., Benzoni, F., Chaineau, C-H. & Dutrieux, E. 2010. *Field Guide to the Hard Corals of the Southern Coast of Yemen*. (Biotope: France). 256 pp.

Pickett, J.W., Thompson, C.H., Kelley, R.A. & Roman, D. 1985. Evidence of higher sea level during isotopic stage 5C in Queensland, Australia. *Quaternary Research* **24**: 103–114.

Pillai, C.S.G. & Scheer, G. 1976. Report on the stony corals from the Maldive Archipelago. Results of the Xarifa Expedition 1957/58. *Zoologica (Stuttgart)* **43**: 1–83, pls 1–32.

Pillay, R.M., Terashima, H., Venkatasami, A. & Uchida, H. 2002. *Field guide to Corals of Mauritius*. (Ministry of Fisheries: Mauritius). 334 pp.

Pratchett, M.S. 2001. Influence of coral symbionts on feeding preferences of crown-of-thorns starfish *Acanthaster planci* in the western Pacific. *Marine Ecology Progress Series* **214**: 111–119.

Putchim, L., Thongtham, N., Hewett, A. & Chansang, H. 2008. Survival and growth of *Acropora* spp. in mid-water nursery and after transplantation at Phi Phi Islands, Andaman Sea, Thailand. Pp. 1263–1266 *In*, Riegl, B.M. & Dodge, R.E. (Eds.) *Proceedings of the 11th International Coral Reef Symposium, Ft. Lauderdale, Florida, Volume 2*.

Quelch, J.J. 1886. Report on the reef-corals collected by H.M.S. *Challenger* during the years 1873–76. *Report of the Scientific Results of the Voyage of H.M.S. Challenger. Zoology* **16**: 1–203.

Rehberg, H. 1892. Neue und wenig bekannte Korallen. *Abhandlungen der Naturwissenschaften Verein, Hamburg* **12**: 1–50, pls 1–4.

Richards, Z.T., Beger, M., Pinca, S. & Wallace C.C. 2008. Bikini Atoll coral biodiversity resilience five decades after nuclear testing. *Marine Pollution Bulletin* **56**: 503–516.

Richards, Z.T., van Oppen, M.J.H., Wallace, C.C., Willis B.L., & Miller, D.J. 2008. Some rare Indo-Pacific coral species are probable hybrids. *PLoS ONE* **3**(9): e3240.

Richards, Z. T. & Wallace, C.C. 2004. *Acropora rongelapensis* sp. nov., a new species of *Acropora* from the Marshall Islands (Scleractinia: Astrocoeniina: Acroporidae). *Zootaxa* **590**: 1–5.

Richards, Z.T, Wallace, C.C. & Miller, D.J. 2010. Archetypal 'elkhorn' coral discovered in the Pacific Ocean. *Systematics and Biodiversity* **8**(2): 281–288.

Riegl, B. 1995. Description of four new species in the hard coral genus *Acropora* Oken, 1815 (Scleractinia: Astrocoeniina: Acroporidae) from south-east Africa. *Zoological Journal of the Linnean Society* **113**: 229–247.

Sheppard, C.R.C. & Sheppard, A.L.S. 1991. Corals and coral communities of Arabia. Pp. 3–170. *In*, Büttiker, W. & Krupp, F. (Eds), *Fauna of Saudi Arabia*, Volume 12 (Pro Entomologia: Basel).

Schuster, F. 2002. Oligocene and Miocene examples of *Acropora*-dominated palaeoenvironments: Mesohellenic Basin (NW Greece) and northern Gulf of Suez (Egypt). Pp. 199–204. *In*, Moosa, M.K. (Ed.), *Proceedings of the 9th International Coral Reef Symposium, Bali, Indonesia, Volume 1*.

Studer, T. 1878. Zweite abteilungen der Anthozoa polyactinia, welche während der Reise S.M.S. Corvette Gazelle um die Erde gesammelte wurden. *Monatsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin* **1878**: 524–550, pls. 1–5.

1880. Beitrag zur Fauna der Steinkorallen von Singapore. *Mittheilungen der Naturforschenden Gesellschaft in Bern* **979**: 15–53.

Turak, E. & DeVantier, L. 2011. *Field Guide to Reef-building Corals of Brunei Darussalam*. (Ministry of Industry and Primary Resources: Brunei Darussalam). 256 pp.

Van Oppen, M.J.H., Willis, B.L., Vugt, H.W.J.A. & Miller, D.J. 2000. Examination of species boundaries in the *Acropora cervicornis* group (Scleractinia, Cnidaria) using nuclear DNA sequence analyses. *Molecular Ecology* **9**: 1363–1373.

Vaughan, T.M. 1906. Report on the scientific results of the expedition to the eastern tropical Pacific VI Madreporaria. *Bulletin of the Museum of Comparative Zoology* **50**: 59–72.

1918. Some shoal-water corals from Murray Islands, Cocos-Keeling Islands, and Fanning Islands. *Papers of the Department of Marine Biology of the Carnegie Institution of Washington* **9**: 51–234.

Veron, J.E.N. 1985. New Scleractinia from Australian coral reefs. *Records of the Western Australian Museum* **12**: 147–183.

1986. *Corals of Australia and the Indo-Pacific*. (Angus and Robertson: Sydney). 644 pp.

1990. New Scleractinia from Japan and other Indo-Pacific countries. *Galaxea* **9**: 95–173.

2000. *Corals of the World*. (Australian Institute of Marine Science: Townsville). 1382 pp.

2002. New species described in Corals of the World. *Australian Institute of Marine Science Monograph Series* **11**: 1–206.

Veron, J.E.N. & Marsh, L.M. 1988. Hermatypic corals of Western Australia. Records and annotated species list. *Records of the Western Australian Museum Supplement* **29**: 1–136.

Veron, J.E.N. & Wallace, C.C. 1984. Scleractinia of eastern Australia V. Family Acroporidae. *Australian Institute of Marine Science Monograph Series 6*. 485 pp.

Verrill, A.E. 1864. List of the polyps and corals sent by the Museum of Comparative Zoology to other institutions in exchange, with annotations. *Bulletin of the Museum of Comparative Zoology Harvard University* **1**: 29–60.

1866. Synopsis of the polyps and corals of the North Pacific Exploring Expedition, 1853–1856, Ill. With descriptions of some additional species from the west coast of North America. *Proceedings of the Essex Institute* **5**: 17–50.

1869. Polyps and corals of the North Exploring Expedition Additions and corrections. *Communications of the Essex Institute* 6: 51–70.

1901. Variations and nomenclature of Bermudian, West Indian and Brazilian reef corals, with notes on various Indo-Pacific corals. *Transactions of the Connecticut Academy of Arts and Sciences* **11**: 63–168.

1902. Notes on corals of the genus *Acropora* (*Madrepora* Lamarck) with new descriptions and figures of types, and of several new species. *Transactions of the Connecticut Academy of Arts and Science* **11**: 207–266.

Vollmer, S.V. & Palumbi, S.R., 2002. Hybridization and the evolution of reef coral diversity. *Science* 296: 2023–2025.

Von Marenzeller, E. 1907. Riftkorallen Expeditionen S.M. *Pola* in das Rote Meer. Zoologische Ergebnisse XXVI. *Denkschriften Akademie der Wissenschaften in Wien* 80: 27–97.

Von Prahl, H. & Mejia, A. 1985. Primer informe de un coral acroporido, *Acropora valida* (Dana, 1846) (Scleractinia: Astrocoeniida: Acroporidae) para el Pacifio americano. *Revista de Biologia Tropical* **33**: 39–43.

Wallace, C.C. 1978. The coral genus *Acropora* (Scleractinia: Astrocoeniina: Acroporidae) in the central and southern Great Barrier Reef Province. *Memoirs of the Queensland Museum* **18**: 273–319, pls 43–103.

1994. New species and a new species group of the coral genus *Acropora* from Indo-Pacific locations. *Invertebrate Taxonomy* 8: 961–988.

1997. New species and new records of recently named species of the coral genus *Acropora* from Indonesian reefs. *Zoological Journal of the Linnean Society* **120**: 27–50.

1999. *Staghorn Corals of the World: A revision of the coral genus Acropora (Scleractinia; Astrocoeniina; Acroporidae) worldwide, with emphasis on morphology, phylogeny and biogeography*. (CSIRO: Melbourne). 421 pp.

2001. Wallace's line and marine organisms: The distribution of staghorn corals (*Acropora*) in Indonesia. Pp. 168–178. *In*, Metcalfe, I. (Ed.) *Faunal and Floral Migrations and Evolution in SE Asia-Australasia*. (Balkema: Rotterdam). 416 pp.

2003. Journey to the heart of the centre: Origins of high faunal diversity in the central Indo-Pacific from the perspective of an acropologist. Pp. 33–39. *In*, Moosa, M.K. (Ed.), *Proceedings of the 9th International Coral Reef Symposium, Bali, Indonesia. Volume 1*.

2008. New species and records from the Eocene of England and France support early diversification of the coral genus *Acropora*. *Journal of Paleontology* **82**: 313–328.

2012. Acroporidae of the Caribbean. *Geologica Belgica*. (in press).

Wallace, C.C., Phongsuwan, N. & Muir, P.R. 2012. A new species of staghorn coral, *Acropora sirikitiae* sp. nov. (Scleractinia: Astrocoeniina: Acroporidae) from western Thailand. *Phuket Marine Biology Center Research Bulletin* **71**: 117–124.

Wallace, C.C. & Budd, A.F. 2009. Mirror-image fossils reveal colony form of extinct Curaçao *Isopora*. *Coral Reefs* **28**: 715.

Wallace, C.C., Chen, C.A., Fukami, H. & Muir, P.R. 2007. Recognition of separate genera within *Acropora* based on new morphological, reproductive and genetic evidence from *Acropora togianensis* and elevation of the subgenus *Isopora* Studer, 1878 to genus. *Coral Reefs* 26: 231–239.

Wallace, C.C. & Christie, C. 1992. Reproductive status of corals in December 1987. Pp. 61–66. *In*, Longmore, R. (Ed.), *Reef Biology: A survey of Elizabeth and Middleton Reefs, South Pacific*. (Australian National Parks and Wildlife Service Publication: Canberra). 230 pp.

Wallace, C.C. & Dai, C.-F. 1997. Scleractinia of Taiwan (IV): Review of the coral genus *Acropora* from Taiwan. *Zoological Studies* **4**: 288–324.

Wallace, C.C., Fellegara, I., Muir, P.R. & Harrison, P.L. 2009.The scleractinian corals of Moreton Bay, Queensland, Australia: high latitude, marginal assemblages with increasing species richness. *In*, Davie, P.J.F. & Phillips, J.A. (Eds), Proceedings of the Thirteenth International Marine Biological Workshop, the Marine Fauna and Flora of Moreton Bay, Queensland. *Memoirs of the Queensland Museum — Nature* 54(2): 1–118.

Wallace, C.C & Muir, P.R. 2005. Biodiversity of the Indian Ocean from the perspective of staghorn corals (*Acropora* spp). *Indian Journal of Marine Sciences* 34: 42–49.

Wallace, C.C., Muir P.R. & Venkatesh, M. 2007. Post-bleaching renewal of the dominant reef-building coral species *Acropora abrotanoides* in the Lakshadweep islands of India. *Coral Reefs* 26: 45.

Wallace, C.C., Pandolfi, J., Young, M. & Wolstenholme, J. 1991. Indo-Pacific coral biogeography: A case study from the *Acropora selago* group. Pp. 199–210. *In*, Ladiges, P.Y., Humphries, C.J. & Martinelli, L.W. (Eds.), *Austral Biogeography*. (CSIRO: Melbourne). 227 pp.

Wallace, C.C., Paulay, G., Hoeksema, B.W., Bellwood, D.R., Hutchings, P.A., Barber, P.H., Erdmann, M. & Wolstenholme, J. 2003. Nature and origins of unique high diversity reef faunas in the Bay of Tomini, Central Sulawesi: The ultimate "center of biodiversity"? Pp. 185–192. *In*, Moosa, M.K. (Ed.), *Proceedings of the 9th International Coral Reef Symposium, Bali, Indonesia, Volume 1*.

Wallace, C.C., Richards, Z., Suharsono 2001. Regional distribution patterns of *Acropora* and their use in the conservation of coral reefs in Indonesia. *Indonesian Journal of Marine and Coastal Resources* **4**: 1–19.

Wallace, C.C. & Rosen, B.R. 2006. Diverse staghorn corals (*Acropora*) in high-latitude Eocene assemblages: Implications for the evolution of modern diversity patterns of coral reefs. *Proceedings of the Royal Society B* **273**: 975–982.

Wallace, C.C. & Willis, B.L. 1994. Systematics of the coral genus *Acropora*: Implications of new biological findings for species concepts. *Annual Review of Ecology and Systematics* **25**: 237–262.

Wallace, C.C. & Wolstenholme, J. 1998. Revision of the coral genus *Acropora* (Scleractinia: Astrocoeniina: Acroporidae) in Indonesia. *Zoological Journal of the Linnean Society* **123**: 199–384.

Wallace, C.C. & Zahir, H. 2007. The 'Xarifa' expedition and the atolls of the Maldives, 50 years on. *Coral Reefs* **26**: 3–5.

Wei, N.-W., Wallace, C.C., Dai, C.-F., Moothien-Pillay, K.R. & Chen, C.A. 2006. Analyses of the ribosomal internal transcribed spacers (ITS) and the 5.8S gene indicate that extremely high rDNA heterogeneity is a unique feature in the scleractinian coral genus *Acropora* (Scleractinia; Acroporidae). *Zoological Studies* **45**: 404–418.

Wells, J.W. 1936. The nomenclature and type species of some genera of recent and fossil corals. *American Journal of Science* **31**, 97–134.

1950. New genera of Mesozoic and Cenozoic corals. *Journal of Paleontology* **11**: 73–77.

1954. Recent corals of the Marshall Islands. *Professional Papers of the U.S. Geological Survey* **260**: 385–486.

1985. Notes on Indo-Pacific Scleractinian Corals II. A new species of *Acropora* from Australia. *Pacific Science* **39**: 338–339.

Willis, B.L., Babcock, R.C., Harrison, P. L. & Wallace, C.C. 1997. Experimental hybridisation and breeding incompatibilities within the mating systems of mass spawning reef corals. *Coral Reefs Supplement* **16**: S53–S65.

Wolstenholme, J., Wallace, C.C & Chen, C. 2003. Species boundaries within the *Acropora humilis* species group (Cnidaria; Scleractinia): a morphological and molecular interpretation of evolution. *Coral Reefs* **22**: 155–166.